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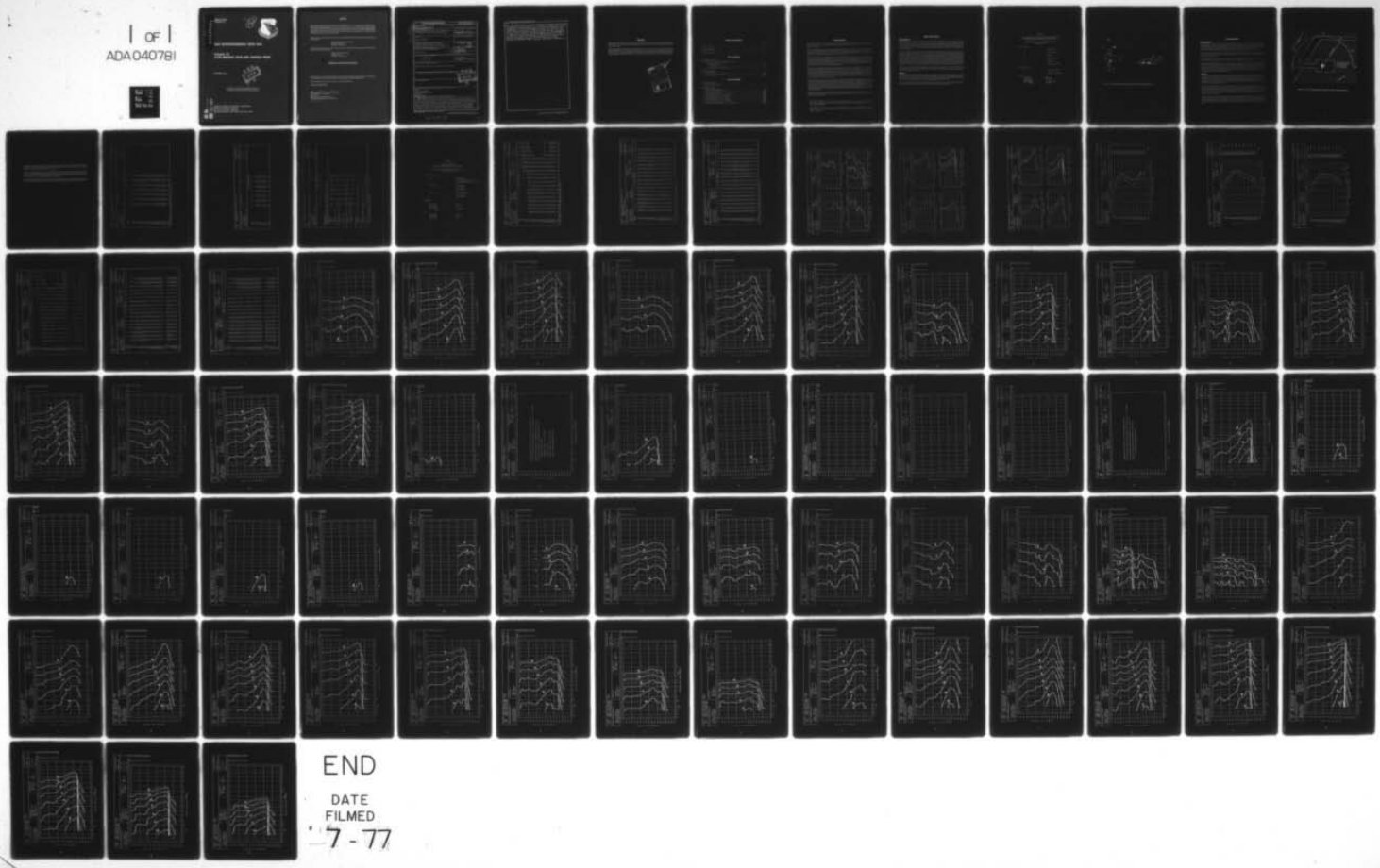

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Volume 70

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USAF BIOENVIRONMENTAL NOISE DATA

Volume 70
A-37B AIRCRAFT, NEAR AND FAR-FIELD NOISE

NOVEMBER 1975

AEROSPACE MEDICAL RESEARCH LABORATORY
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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FOR THE COMMANDER

HENNING E. VON GIERKE
Director
Biodynamics and Bionics Division
Aerospace Medical Research Laboratory

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The USAF A-37B is an attack and close air support aircraft powered by two J85-GE-17A turbojet engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for three engine/power configurations. Near-field data are reported for six locations in a wide variety of physical and psychoacoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise

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level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distance from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement of Noise and Vibration Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Robert England for his assistance in acquiring the raw data, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing and Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

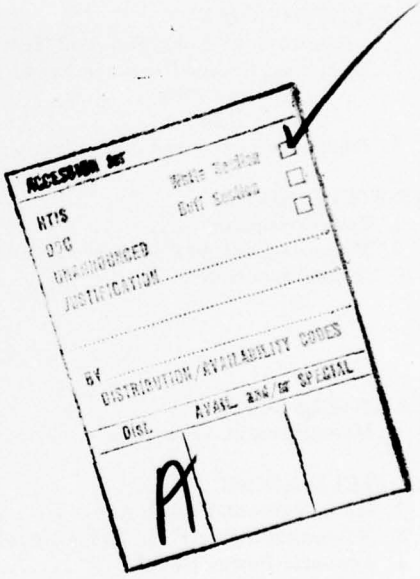

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

The USAF A-37B is a close air support and attack-type aircraft powered by two J85-GE-17A turbojet engines. The aircraft was manufactured by the Cessna Company and the engines by the General Electric Company.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the A-37B aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and aerospace ground equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, aerospace ground equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflightg-flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

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1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975

2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the A-37B aircraft during ground runup operations of its turbojet engines. For these tests the aircraft was located on a concrete runup pad at Edwards AFB, CA, with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the two engine/power conditions. The groundcrew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the six near-field locations where ground crew are usually located for maintenance and/or pre-flight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the A-37B aircraft at the six ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distance involved.

TABLE 1

MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS

A-37B Aircraft, Ground Runup, Edwards AFB, CA
25 September 1972

Ground Crew Location

1	Engine #1 Start
2	Engine #2 Start
3	Marshall
4	Wheel Chock Pull
5	Flap Check
6	Hydraulic Leak Check

Aircraft Engine Operation

A	Engine #1 Idle Power
B	Both Engines Idle Power

Meteorology

Temperature	10.0 C
Bar Pressure	0.704 M Hg
Rel Humidity	87 %
Wind — Speed	3.1 M/Sec (6 Kt)
— Direction	220 Deg.

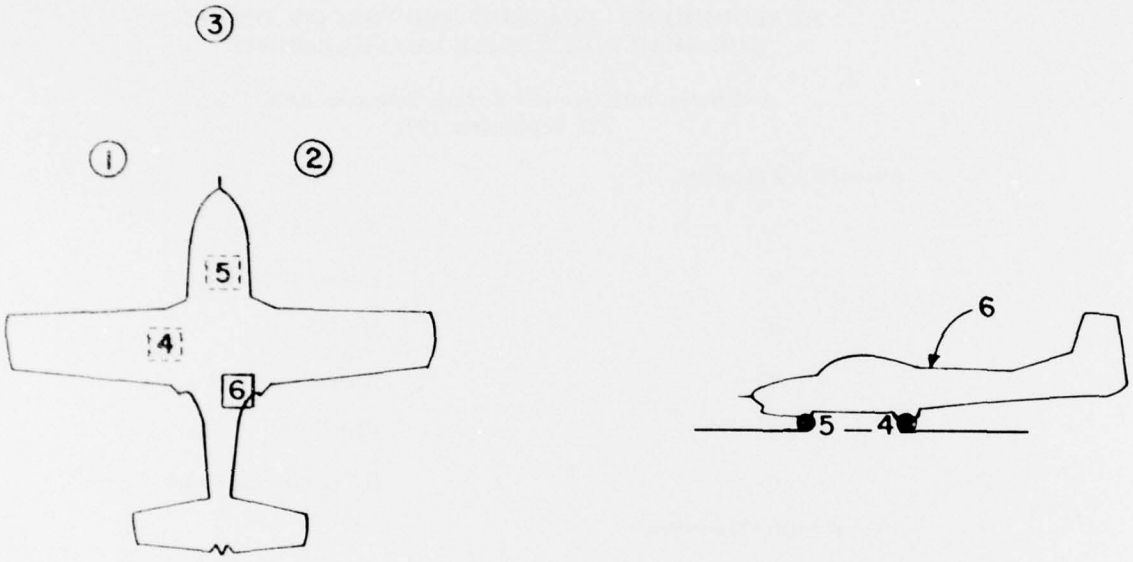


Figure 1. Near-Field Measurement Locations at Pad 17, Edwards AFB, CA

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired both near and far-field data during a 1- 2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the ground runup pad, ground cover, aircraft orientation and the 19 microphone measurement sites on a semicircle. The center of the 75 meter radius semicircle used in surveying the J85-GE-17A engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines exhaust-nozzle exits.

Table 4 provides cockpit readouts of engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (25 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the A-37B aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

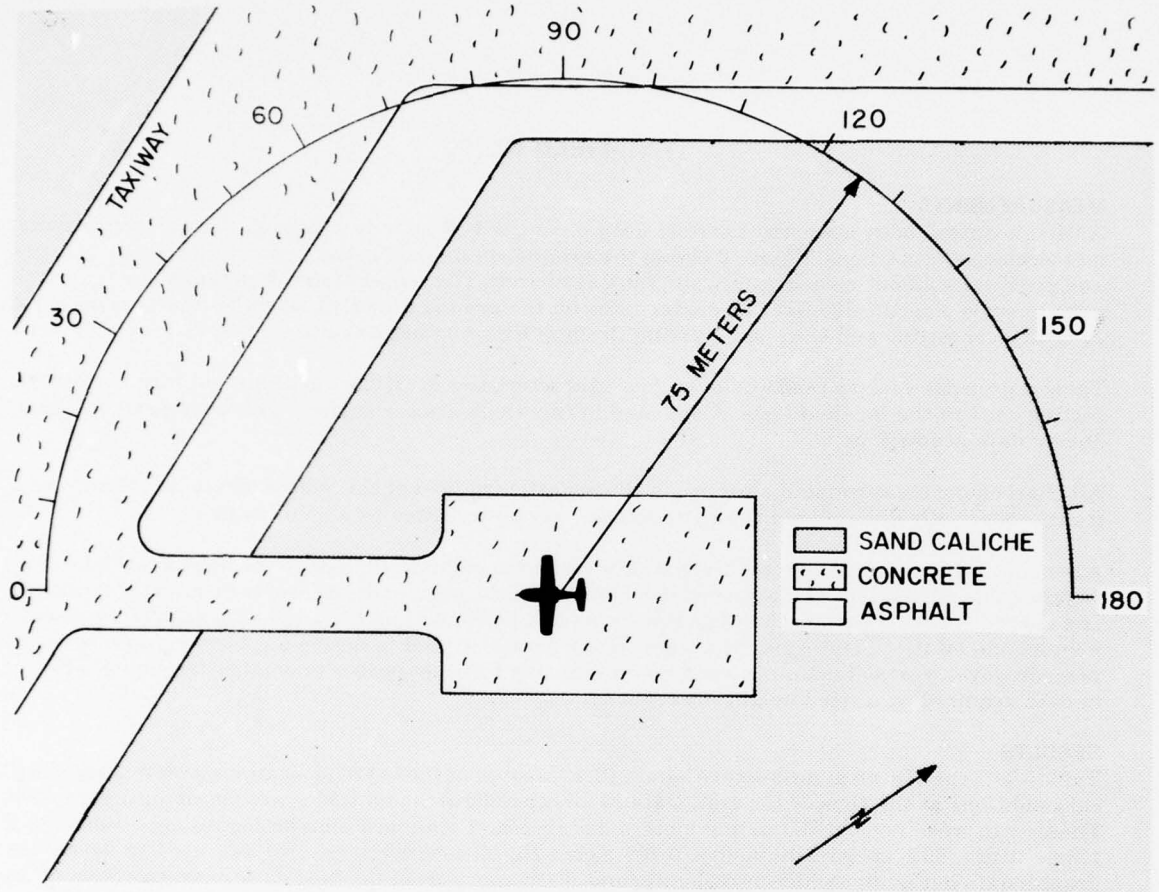


Figure 2. Far-Field Measurement Locations at Pad 17, Edwards AFB, CA

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170 and 180 degree locations for the higher power settings because of turbulent air flow behind the aircraft.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 and Figure 11 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND

IDENTIFICATION:
OMEGA 3.2
TEST 72-044-002
RUN 01

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

02 DEC 74

	LOCATION/CONDITION						
FREQ (HZ)	1/A	2/A	2/3	3/B	4/B	5/B	6/B
25	79	82	80	74	87	85	89
31.5	81	83	82	75	90	88	90
40	84	87	85	77	95	92	94
50	90	91	91	81	98	95	96
63	92	91	92	83	100	99	96
80	93	90	93	83	101	102	98
100	91	93	95	82<	99	103	99
125	95	95	97	88	105	105	105
160	94	96	96	90	106	102	106
200	92	96	95	87	102	102	102
250	90	96	95	87	99	100	103
315	92	95	93	86	99	101	101
400	92	93	92	87	100	102	104
500	92	93	92	85	99	99	105
630	92	94	93	84	99	99	100
800	94	97	96	85	99	99	101
1000	97	96	98	86	101	101	101
1250	98	96	98	87	101	102	102
1600	103	98	104	94	105	107	101
2000	103	100	103	94	104	107	101
2500	101	101	103	94	102	105	101
3150	104	101	105	95	102	107	102
4000	113	105	114	106	109	111	103
5000	107	112	108	98	103	107	102
6300	111	108	114	101	106	110	103
8000	122	111	125	111	119	123	104
10000	113	112	115	102	107	110	101
OVERALL	124	118	120	113	121	124	116

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 2 MEASURED SOUND PRESSURE LEVEL (DB) OCTAVE BAND

IDENTIFICATION:
OMEGA 3.2
TEST 72-044-002
RUN 01

02 DEC 74

PAGE J1

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

LOCATION/CONDITION

FREQ (HZ)	1/A	2/A	2/3	3/B	4/B	5/B	6/B
31.5	87	89	87	80	96	94	96
63	96	96	97	87	104	104	102
125	98	100	101	92	108	108	109
250	96	100	99	91	105	106	107
500	97	98	97	90	104	105	108
1000	101	101	103	91	105	106	106
2000	107	104	103	99	108	111	106
4000	114	113	115	107	111	113	107
8000	123	115	126	112	119	123	108
OVERALL	124	118	126	113	121	124	115

TABLE: 3 MEASURES OF HUMAN NOISE EXPOSURE

IDENTIFICATION:
OMEGA 3.2
TEST 72-044-002
RUN 01
02 DEC 74
PAGE H1

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
GROUND CREW
NEAR FIELD NOISE LEVELS

OPERATION:

	LOCATION/CONDITION						
	1/A	2/A	2/B	3/B	4/B	5/B	6/B
HAZARD/PROTECTION							
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DBC) AT EAR							
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DBA) AT EAR							
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)							
NO PROTECTION							
OASLC	121	116	124	111	113	122	115
OASLA	123	117	126	113	120	123	114
T	P	P	P	3.2	P	P	2.7
MINIMUM QPL EAR MUFFS							
OASLA*	98	92	100	87	95	98	92
T	42	120	30	285	71	42	120
AMERICAN OPTICAL 1700 EAR MUFFS							
OASLA*	95	88	98	84	92	96	87
T	71	240	42	480	120	60	285
V-51R EAR PLUGS							
OASLA*	92	87	95	83	90	93	87
T	120	285	71	571	170	101	285
AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS							
OASLA*	82	76	86	71	79	83	74
T	679	960	404	960	960	571	960
H-133 GROUND COMMUNICATION UNIT							
OASLA*	92	87	95	82	90	93	86
T	120	285	71	679	170	101	339
COMMUNICATION							
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)							
PSIL	102	101	103	93	106	107	107
ANNOYANCE							
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)							
TONE CORRECTION (C IN DB)							
PNLT	138	133	140	129	138	139	129
C	2	2	2	3	2	2	1

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.
P ADDITIONAL EAR PROTECTION REQUIRED.

TABLE 4

TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS

A-37B Aircraft, Ground Runups, Edwards AFB, CA
20 & 25 September 1972

Aircraft Engine Operation

Idle	Both Engines
	46% RPM NC (Core Speed)
	355 C EGT (Exhaust Gas Temperature)
	495 LBS/HR FF (Fuel Flow)
85% Runup	Both Engines
	85 % RPM NC
	490 C EGT
	1250 LBS/HR FF
Military	#2 (Right) Engines
	100 % RPM NC
	574 C EGT
	2250 LBS/HR FF

Meteorology
(85% & Mil)

Temperature	10.0 C
Bar Pressure	0.704 M Hg
Rel Humidity	87 %
Wind — Speed	3.1 M/Sec (6 Kt)
— Direction	220 Deg

(Idle)

Temperature	15.0 C
Bar Pressure	0.705 M Hg
Rel Humidity	59 %
Wind — Speed	Calm

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .705 M HG
REL HUMID = 59 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25													59<	60<	63<	64<	63<	64<	62<
31.5										59<	62<	64<	63<	65<	68<	68<	67<	69<	67<
40													68<	68<	70<	70<	70<	70<	68<
50												69<	69<	71<	71<	70<	70<	68<	
63						66<	66<		67<	68<	67<	71<	74<	75<	74<	74<	72<	69<	67<
80	64<	68<	67<	67<	68<	71<	70<	71<	70<	71<	71<	74	76	78	78	75	72<	70<	66<
100	66<	67<	66<	68<	70<	72<	73<	74<	74<	74<	74<	77	79	80	78	76	70<	66<	
125	73<	74<	74<	77<	77<	77<	80	80	80	80	81	83	83	84	82	80	70<		
160	72<	74<	75<	74<	73<	77	80	81	80	80	81	83	82	80	77	73<			
200	69<	72<	73	71<	72<	72<	72<	73	73	73	74	77	77	75	71<	62<			
250	70<	71<	74	74	74	71<	71<	72<	74	76	73<	75	75	73<	68<				
315	69<	72	71	72	71	68<	70<	73	71	75	73	73	73	71	63<				
400	69<	70	69	71	72	67<	68<	70	73	75	75	77	75	71	63<				
500	68	70	68	68	69	68	67	70	70	71	72	73	71	70	60<				
630	66	68	68	66	66	66	63	64	68	69	69	70	68	66	60<				
800	68	68	69	66	65	66	65	64	65	66	70	72	67	64	59<				
1000	70	70	70	68	68	68	65	65	66	66	69	71	66	66	60<				
1250	72	71	70	69	68	68	64	63	64	67	71	71	67	65	62	50<			
1600	76	75	75	74	73	73	68	67	65	66	71	71	67	66	64	52<	46<	45<	46<
2000	74	70	71	70	69	70	66	67	64	65	71	71	66	65	62	51<			
2500	72	70	71	69	68	70	67	66	61	65	71	68	66	64	61				
3150	74	71	71	71	70	72	71	67	60	64	70	66	64	63	59	47<			
4000	86	86	80	83	83	87	88	71	63	67	70	66	65	64	64	55	44<	42<	41<
5000	74	73	74	73	73	74	73	67	63	66	70	65	62	59	58	47	39<	40<	38<
6300	73	73	73	73	72	72	70	67	65	66	71	65	61	58	57	47	39<	39<	37<
8000	81	82	80	84	78	81	79	80	70	67	71	67	65	67	65	55	44	45	41<
10000	67	67	67	67	67	66	64	64	59	58	62	57	55	53	51	40<	34<	33<	33<
OVERALL	89	89	87	88	87	89	90	87	86	86	87	89	88	88	86	84	79	77	73

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: 5

MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	65<	65<	66<	68<	65<	68<	70<	69<	69<	69<	74	72	74	78	79	81	78		
31.5	68<	67<	66<	67<	69<	70<	70<	71	71	72	73	75	78	80	81	81	81		
40	69<	70<	70<	70<	71<	72<	73	74	75	76	77	79	82	84	85	83	83		
50	70<	70<	71<	72<	73	74	74	75	76	79	80	83	85	85	86	84	82		
63	72<	72<	70<	73<	75<	76	77	77	77	80	84	86	88	90	90	87	82		
80	73<	73<	74<	75<	77	77	79	80	80	82	85	89	92	93	92	87	80		
100		74<	75<	76<	77<	78<	80<	81<	82<	83<	86	89	94	95	93	85	76<		
125	76	77	79	79	81	82	83	83	86	86	89	92	95	98	94	85	78		
160	77	78	79	80	83	84	85	86	86	86	90	94	98	100	94	83	76		
200	78	79	81	84	83	84	84	84	86	87	90	95	101	101	93	79	76		
250	82	81	84	85	87	87	86	87	88	90	92	96	101	101	91	81	81		
315	82	82	84	86	87	84	85	88	89	91	94	96	100	101	90	79	79		
400	82	83	84	85	84	84	86	88	90	92	93	95	100	99	88	73	75		
500	83	84	83	84	85	84	85	86	87	88	91	92	95	96	85	71	69		
630	83	82	82	83	83	83	84	84	86	85	88	90	91	93	81	66	65		
800	80	82	83	83	83	83	84	84	85	85	88	91	90	93	80	63	62		
1000	79	82	82	82	82	82	82	83	84	85	89	91	89	93	79	64	61		
1250	77	80	81	81	81	81	80	81	84	87	88	92	88	92	79	64	62		
1600	77	80	79	80	80	79	80	81	84	87	88	91	87	88	78	62	61		
2000	77	80	79	80	79	78	78	81	84	85	88	89	85	85	75	63	60		
2500	77	81	78	80	79	79	79	81	83	85	87	87	84	84	74	64	59		
3150	75	78	78	77	78	78	79	80	82	82	85	85	82	82	73	59	57		
4000	73	77	76	77	77	77	77	79	81	83	85	86	82	82	71	58	54		
5000	72	76	75	75	76	76	76	77	80	81	84	84	81	80	70	55	53		
6300	70	75	74	74	74	74	75	75	76	78	79	80	76	76	67	52	49		
8000	71	77	75	75	76	75	75	75	74	76	76	77	72	72	66	48	46		
10000	61	66	65	65	66	65	65	68	69	71	72	72	68	67	58	45	44		
OVERALL	92	93	94	95	95	95	95	97	98	100	102	105	108	109	102	94	91		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 5: MEASURED SOUND PRESSURE LEVEL (DB)
1/3 OCTAVE BAND
DISTANCE = 75 METERS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 2

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	68<	70<	69<	70<	71<	70<	73	73	72	75	78	81	85	84	87	86	84		
31.5	70<	71	69<	71	72	72	73	74	74	78	79	82	86	87	88	88	85		
40	74	73	73	74	75	76	76	77	79	81	83	87	90	91	91	89	86		
50	74	72	74	74	76	77	78	80	81	83	87	91	95	93	91	88	84		
63	77	76	76	78	78	80	80	81	83	85	88	92	97	96	94	88	83		
80	77	77	77	79	81	82	82	82	84	87	90	95	99	99	95	87	79		
100	76<	77<	79<	81<	82<	81<	84<	85	86	88	92	97	100	100	95	85	74<		
125	80	80	83	84	86	85	87	87	90	93	95	100	104	103	94	85	77		
160	80	82	84	87	88	89	90	91	91	93	99	103	106	103	93	84	76		
200	83	83	87	87	89	88	88	91	91	93	99	105	106	104	91	82	78		
250	85	85	89	89	90	90	91	93	94	96	101	106	108	107	90	83	81		
315	89	86	90	92	91	90	92	94	96	100	104	108	109	107	89	81	80		
400	89	88	94	94	91	91	94	95	95	99	104	105	108	105	88	81	79		
500	89	91	91	90	91	91	92	94	97	99	101	101	104	106	89	78	76		
630	90	89	90	91	91	90	92	92	93	96	100	100	101	107	86	77	73		
800	89	90	90	89	90	92	92	91	93	95	99	102	104	109	86	76	69		
1000	86	88	89	89	89	89	91	91	92	94	98	103	106	110	83	75	70		
1250	85	85	88	88	88	88	90	91	93	96	100	105	105	108	82	74	69		
1600	83	85	87	87	88	87	89	91	94	96	100	103	104	105	80	74	67		
2000	81	82	86	86	86	86	89	91	93	96	100	101	102	104	78	74	67		
2500	80	81	86	86	86	85	89	91	93	95	99	101	101	102	77	75	66		
3150	77	78	83	83	83	83	88	90	91	93	97	97	99	100	75	72	65		
4000	75	75	82	83	83	82	88	89	91	94	97	97	98	99	75	70	63		
5000	71	72	80	80	82	80	85	87	90	92	95	96	96	97	73	67	61		
6300	67	69	77	76	78	76	81	85	87	90	92	93	94	95	71	64	58		
8000	63	65	73	73	75	73	78	81	84	86	89	90	91	93	67	60	54		
10000	58	59	68	67	70	67	73	76	80	82	85	87	90	90	62	54	49		
OVERALL	98	98	101	101	101	101	103	104	106	108	112	115	117	118	104	97	93		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3

DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:

IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-008
RUN 01

15 APR 75

PAGE 6

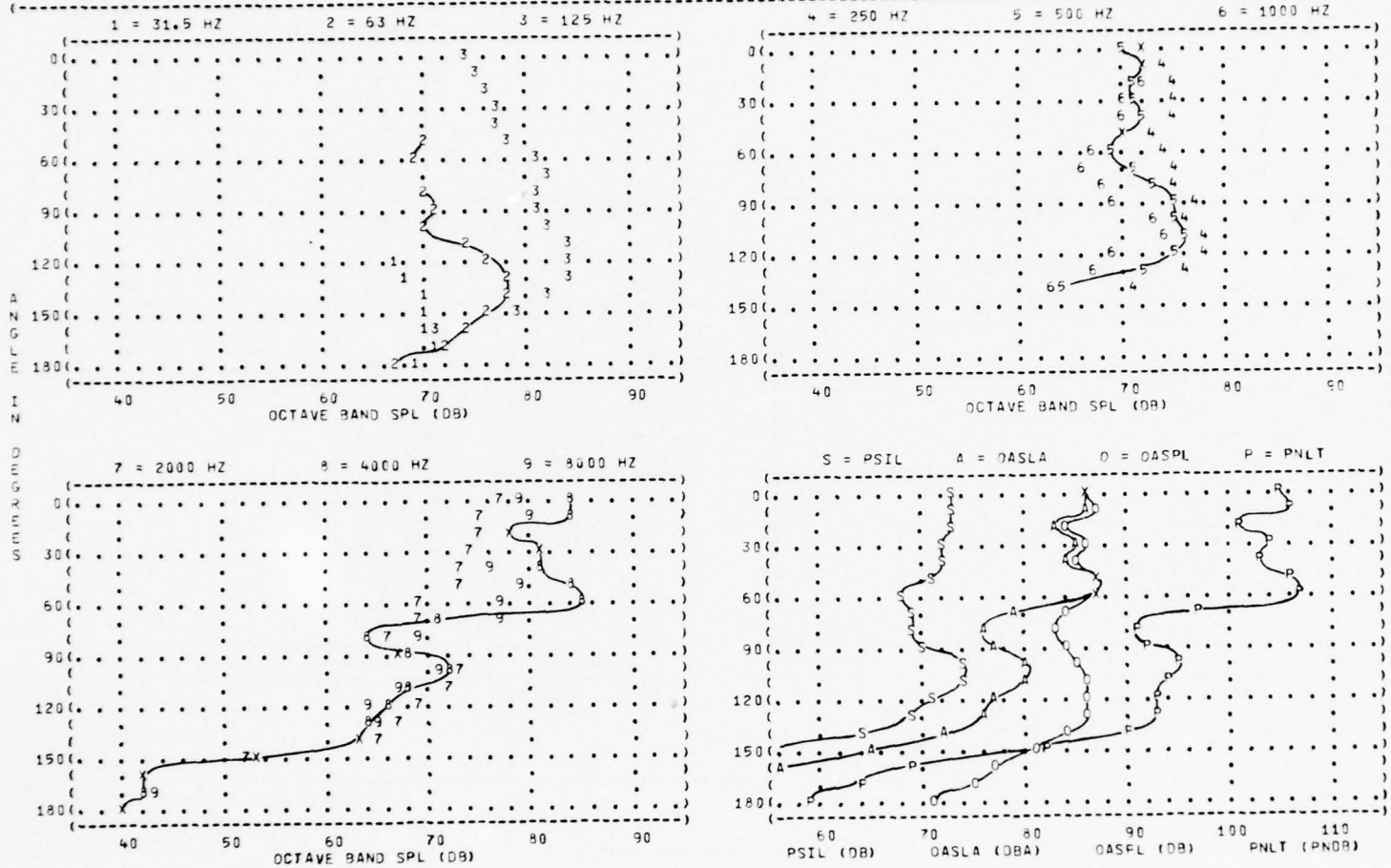


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:

85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 01

13 MAY 75

PAGE 6

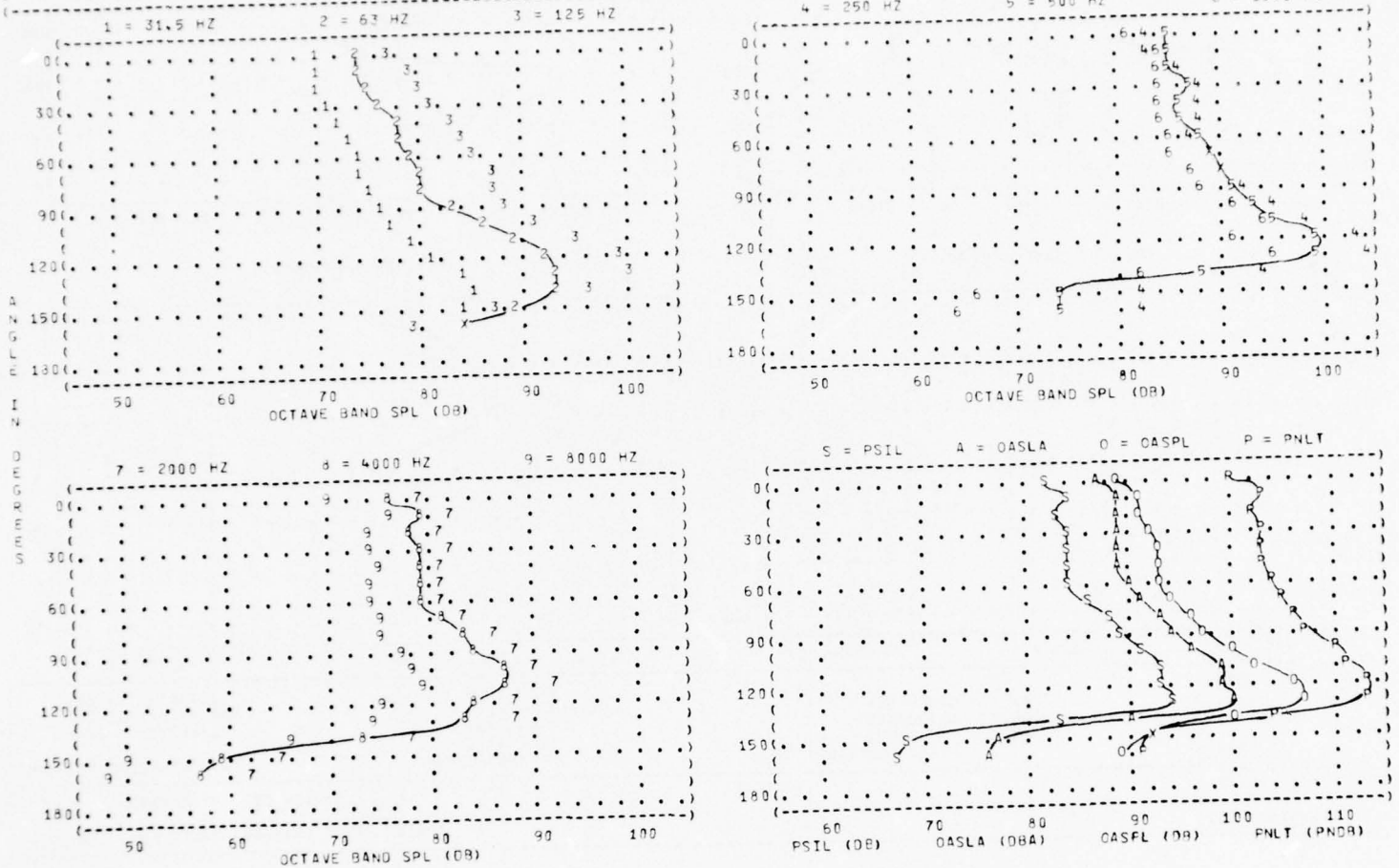


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:

MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 02

13 MAY 75

PAGE 6

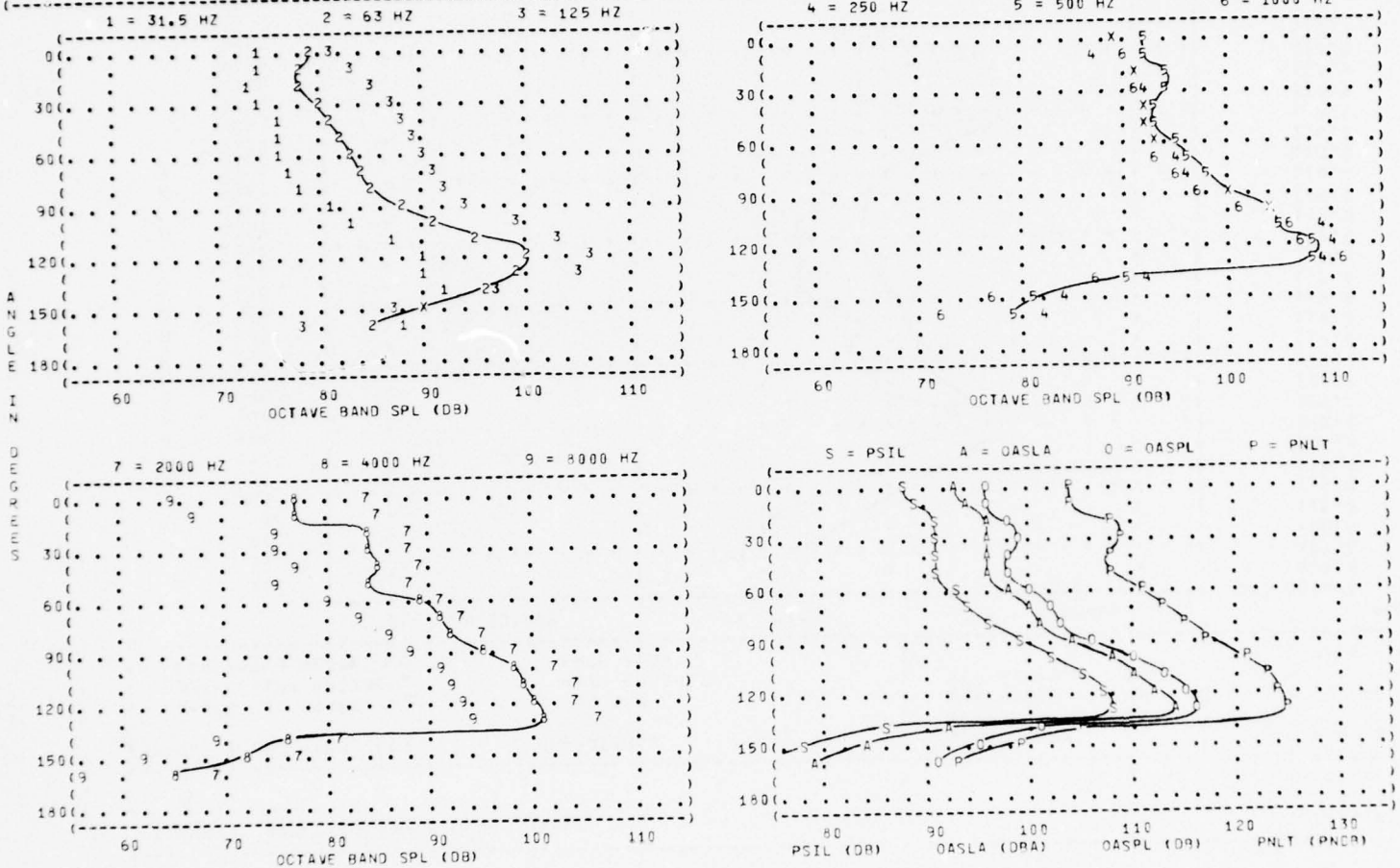


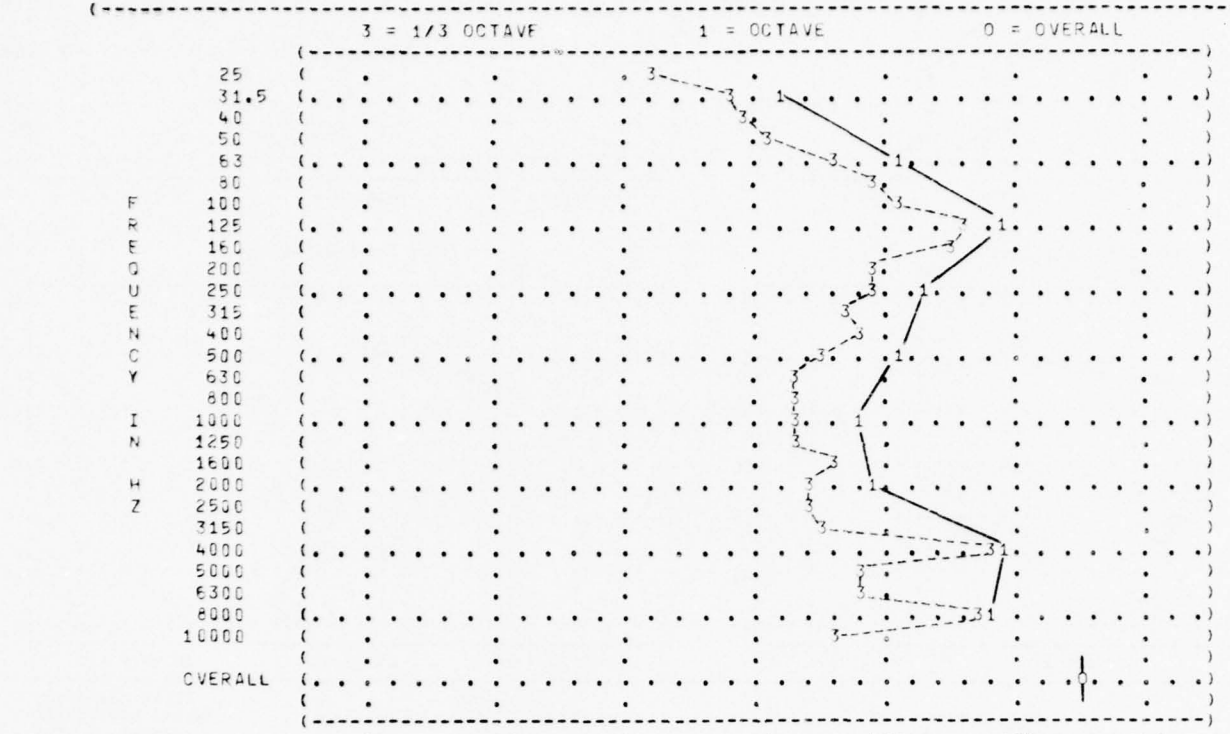
FIGURE: 4 ACOUSTIC POWER LEVEL (PWL)

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .705 M HG
REL HUMID = 59 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 7



	PWL 1/3 OCTAVE	PWL OCTAVE
25	101.9	
31.5	107.8	112.0
40	109.1	
50	111.2	
63	115.5	121.0
80	118.8	
100	120.8	
125	126.1	129.3
160	125.2	
200	119.3	
250	118.8	123.2
315	117.0	
400	118.2	
500	115.5	120.7
630	112.6	
800	112.5	
1000	112.9	117.7
1250	113.3	
1600	115.7	
2000	114.0	119.3
2500	113.5	
3150	114.7	
4000	127.9	128.5
5000	117.5	
6300	117.6	
8000	127.5	128.2
10000	115.7	
OVERALL		134.5

FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

NOISE SOURCE/SUBJECT:

A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:

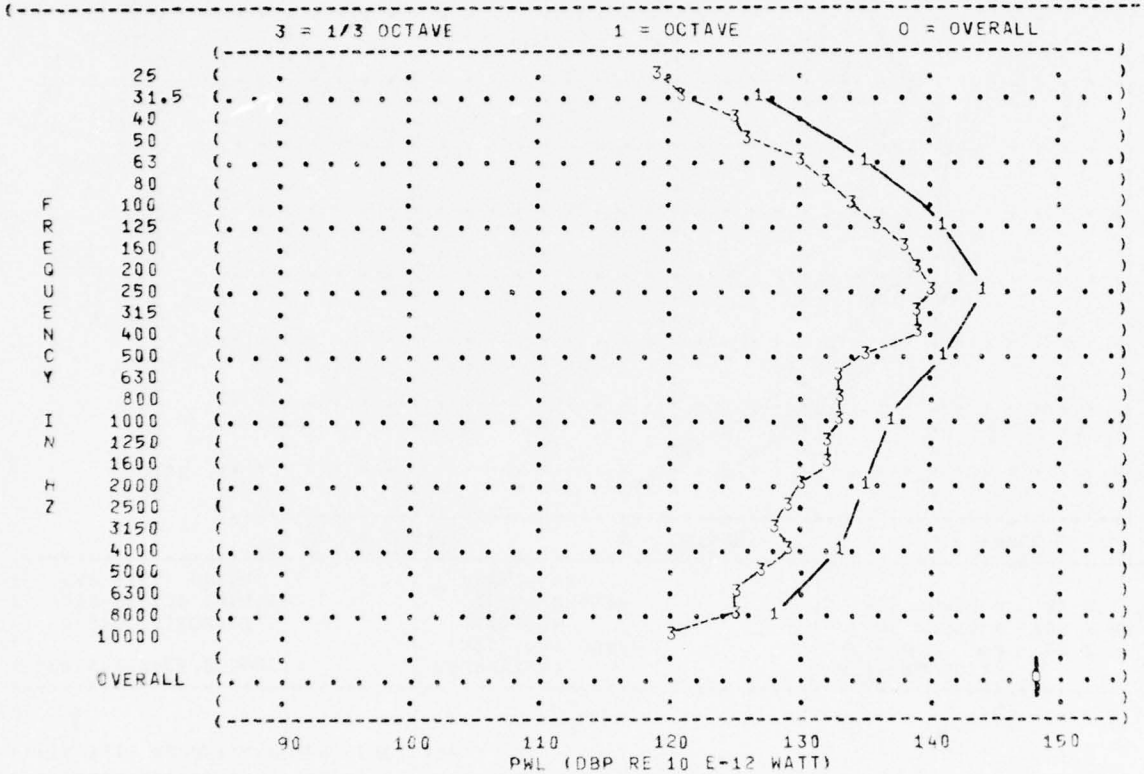
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:

TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 3



PWL 1/3 OCTAVE	PWL OCTAVE
119.4	
121.3	127.2
124.8	
126.5	
129.9	135.0
132.5	
133.9	
136.2	141.1
137.9	
139.3	
139.8	144.3
139.5	
138.9	
135.4	141.1
132.5	
132.9	
132.6	137.4
132.2	
131.5	
130.1	135.2
129.4	
128.0	
128.6	132.7
127.2	
124.8	
124.5	128.4
120.5	
	148.3

FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 02

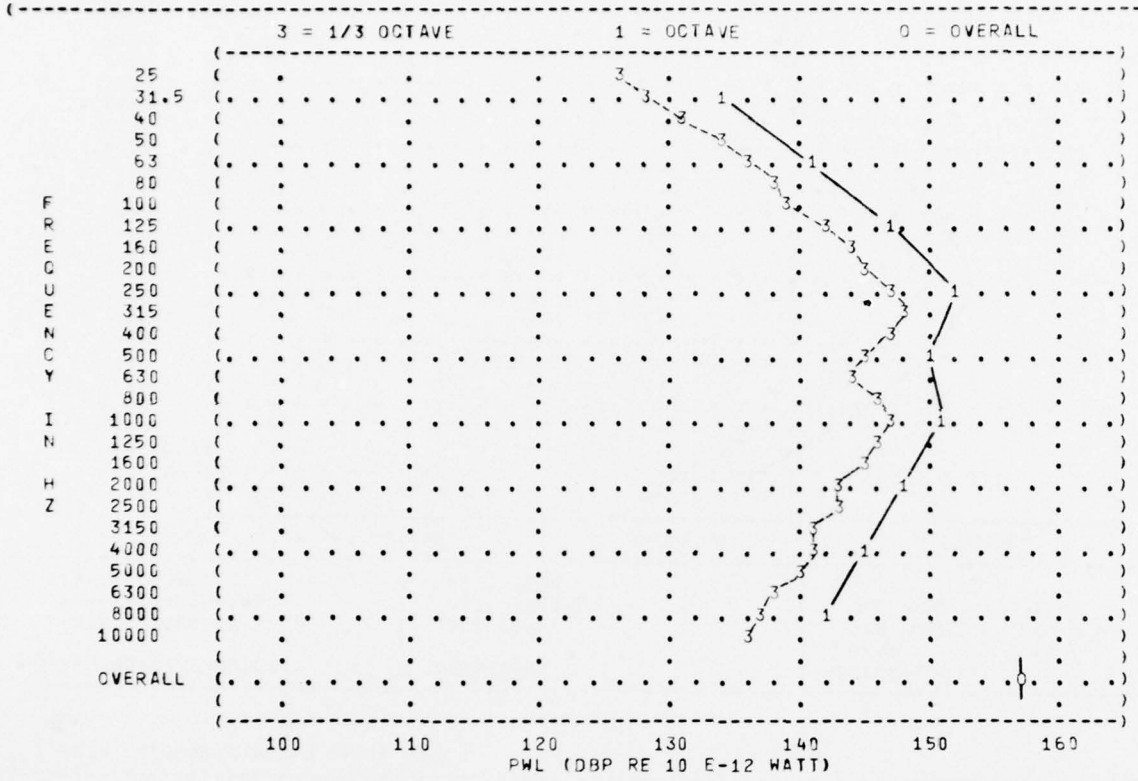
13 MAY 75

PAGE 3

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %



	1/3 OCTAVE	PWL OCTAVE
25	126.1	
31.5	127.8	133.6
40	131.1	
50	133.9	
63	135.9	140.9
80	137.8	
100	139.3	
125	142.2	147.0
160	144.0	
200	144.8	
250	146.9	151.6
315	148.1	
400	146.6	
500	144.9	150.1
630	144.0	
800	146.0	
1000	146.6	151.0
1250	146.0	
1600	144.7	
2000	143.5	148.5
2500	142.6	
3150	140.8	
4000	141.0	145.3
5000	139.6	
6300	137.9	
8000	136.8	141.7
10000	135.9	
OVERALL		157.4

TABLE: DIRECTIVITY INDEX (DB)

6

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .705 M HG
REL HUMID = 59 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 4

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25													3	4	6	7	6	8	5
31.5										-3	0	2	1	3	6	6	5	7	4
40													4	5	6	6	6	7	5
50												3	4	5	5	5	5	2	
63						-4	-4		-3	-2	-3	1	4	5	4	4	2	-0	-3
80	-9	-5	-6	-6	-5	-2	-3	-2	-3	-2	-2	1	3	4	5	2	-1	-3	-8
100	-9	-8	-8	-7	-6	-3	-2	-1	-2	-2	-2	2	4	4	3	1	-5	-10	
125	-7	-7	-7	-4	-3	-4	-1	-1	-1	-1	1	2	3	3	2	-1	-11		
160	-8	-5	-4	-5	-6	-3	1	2	1	0	2	3	2	1	-2	-7			
200	-5	-1	-1	-3	-1	-2	-1	-1	-0	-0	1	4	3	2	-3	-12			
250	-3	-2	1	1	1	-2	-2	-1	1	3	0	2	2	0	-6				
315	-2	1	-1	0	-0	-4	-1	1	-1	3	1	1	1	-1	-8				
400	-4	-2	-3	-2	-0	-5	-5	-2	1	2	2	4	3	-2	-10				
500	-2	-0	-1	-2	-1	-1	-2	-0	0	1	3	3	2	1	-10				
630	-1	1	1	-1	-1	-1	-4	-3	1	2	2	3	1	-1	-7				
800	1	1	2	-1	-1	-0	-2	-2	-2	-1	3	5	1	-3	-8				
1000	3	3	3	1	1	1	-2	-2	-1	-1	2	4	-1	-1	-7				
1250	4	3	2	2	1	1	-3	-4	-3	-0	4	4	-0	-2	-5	-17			
1600	7	5	5	5	3	3	-1	-3	-4	-4	1	1	-3	-4	-6	-18	-23	-24	-23
2000	6	3	3	2	1	2	-1	-1	-4	-2	3	3	-1	-3	-5	-17			
2500	5	3	4	2	1	3	-0	-1	-6	-2	4	1	-1	-3	-6				
3150	6	4	3	3	2	4	3	-1	-8	-4	2	-2	-4	-5	-9	-20			
4000	5	6	-1	3	3	6	7	-9	-17	-13	-10	-14	-16	-17	-16	-26	-37	-38	-39
5000	5	4	4	4	4	5	4	-2	-6	-3	1	-4	-8	-10	-12	-23	-30	-30	-31
6300	4	4	4	4	4	4	2	-1	-4	-2	2	-3	-7	-10	-12	-22	-30	-29	-32
8000	5	6	3	7	2	5	2	3	-6	-9	-5	-9	-12	-10	-12	-21	-33	-31	-35
10000	5	5	5	5	5	3	2	1	-3	-4	-0	-5	-8	-9	-11	-22	-29	-29	-29
OCTAVE																			
31.5													3	4	6	6	6	7	5
63						-3	-4		-3	-2	-3	1	3	5	5	3	1	-1	-6
125	-8	-6	-6	-5	-4	-3	-0	0	-0	-0	1	3	3	3	1	-2	-11		
250	-3	-1	0	-0	-0	-2	-1	-0	0	2	1	3	2	1	-5				
500	-3	-1	-2	-2	-0	-3	-4	-2	1	2	2	4	2	-1	-9				
1000	3	3	2	1	0	1	-2	-3	-2	-1	3	4	-0	-2	-6				
2000	5	4	4	4	2	3	-1	-2	-5	-3	3	2	-2	-3	-6	-19			
4000	5	5	0	3	3	6	7	-7	-14	-10	-6	-10	-13	-14	-15	-25	-36	-37	-38
8000	5	5	3	7	2	5	2	3	-6	-7	-3	-8	-11	-10	-12	-21	-32	-31	-34
OVERALL	1	2	-1	1	-0	2	2	-1	-2	-1	-0	1	1	1	-1	-4	-9	-11	-14

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-9	-9	-7	-6	-9	-6	-4	-5	-5	-5	-0	-2	-0	4	5	7	4		
31.5	-8	-9	-10	-9	-7	-6	-6	-5	-5	-4	-3	-1	2	4	5	5	5		
40	-10	-10	-9	-9	-8	-7	-6	-5	-4	-3	-2	0	2	5	6	3	4		
50	-11	-11	-10	-9	-8	-7	-7	-6	-5	-2	-1	2	4	4	5	3	1		
63	-13	-13	-14	-12	-9	-8	-7	-7	-7	-4	-1	1	4	6	6	2	-2		
80	-14	-14	-13	-12	-10	-10	-8	-7	-7	-5	-2	2	5	6	5	0	-7		
100		-15	-14	-12	-11	-11	-8	-7	-6	-5	-2	1	6	7	5	-3	-12		
125	-15	-14	-12	-12	-10	-8	-8	-8	-5	-5	-1	1	5	7	4	-5	-13		
160	-16	-14	-13	-13	-10	-9	-8	-6	-6	-6	-2	2	6	7	2	-10	-16		
200	-16	-14	-13	-10	-11	-10	-10	-9	-8	-6	-4	1	7	8	-1	-15	-18		
250	-13	-13	-10	-9	-7	-7	-9	-7	-6	-4	-2	2	7	7	-3	-13	-13		
315	-12	-12	-10	-8	-7	-10	-9	-6	-5	-3	-0	2	6	7	-4	-15	-15		
400	-11	-10	-10	-8	-9	-9	-7	-5	-3	-2	-0	1	7	6	-5	-20	-18		
500	-7	-6	-6	-6	-5	-5	-5	-4	-2	-2	1	2	5	7	-5	-18	-20		
630	-4	-5	-5	-4	-4	-4	-3	-3	-1	-2	1	3	4	6	-6	-21	-22		
800	-7	-5	-5	-5	-5	-5	-3	-4	-2	-2	1	4	3	6	-7	-24	-25		
1000	-8	-5	-5	-5	-4	-5	-5	-4	-3	-1	2	5	2	6	-7	-23	-26		
1250	-9	-6	-6	-5	-5	-6	-6	-5	-3	0	2	5	2	5	-7	-22	-25		
1600	-9	-6	-6	-5	-6	-6	-6	-4	-1	2	3	6	2	3	-8	-24	-24		
2000	-7	-4	-5	-4	-5	-6	-6	-3	-0	1	4	5	1	1	-9	-21	-24		
2500	-6	-2	-5	-3	-4	-4	-4	-2	0	2	4	4	1	1	-9	-19	-24		
3150	-6	-3	-3	-4	-3	-3	-2	-1	0	1	4	4	1	1	-9	-22	-24		
4000	-8	-4	-5	-4	-4	-4	-4	-2	0	2	4	5	1	1	-10	-24	-27		
5000	-8	-4	-4	-4	-4	-4	-4	-2	0	1	4	4	1	1	-10	-24	-27		
6300	-6	-1	-2	-2	-2	-2	-2	-1	0	2	3	4	-0	-0	-9	-24	-27		
8000	-4	3	0	1	1	0	1	0	-0	1	2	2	-2	-2	-9	-26	-28		
10000	-7	-2	-3	-3	-2	-3	-3	-1	1	3	4	4	-0	-1	-10	-24	-24		
OCTAVE																			
31.5	-9	-9	-9	-8	-8	-7	-6	-5	-5	-4	-2	-0	2	5	6	5	4		
63	-13	-13	-13	-11	-9	-9	-8	-7	-7	-4	-2	2	4	6	5	1	-3		
125	-16	-14	-13	-12	-10	-9	-8	-7	-6	-5	-2	1	5	7	3	-6	-14		
250	-13	-13	-11	-9	-8	-9	-9	-7	-6	-4	-2	2	7	7	-2	-14	-15		
500	-8	-8	-8	-7	-7	-7	-6	-4	-3	-2	0	2	6	6	-5	-20	-19		
1000	-8	-5	-5	-5	-5	-5	-5	-4	-2	-1	2	5	2	6	-7	-23	-25		
2000	-7	-4	-6	-4	-5	-6	-5	-3	-1	2	3	5	1	2	-8	-21	-24		
4000	-7	-4	-4	-4	-4	-4	-3	-2	0	1	4	4	1	1	-9	-23	-26		
8000	-5	1	-1	-1	-0	-1	-1	-0	0	2	3	4	-1	-1	-9	-25	-27		
OVERALL	-11	-9	-9	-8	-7	-8	-7	-6	-4	-3	-0	2	6	7	-0	-8	-12		

TABLE: DIRECTIVITY INDEX (DB)

6

IDENTIFICATION:

OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 4

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 10 C
BAR PRESS = .704 M HG
REL HUMID = 87 %

FREQ (HZ)	ANGLE (DEGREES) 0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
1/3 OCTAVE																			
25	-13	-10	-12	-11	-10	-11	-8	-8	-8	-6	-3	-0	4	3	6	6	4		
31.5	-13	-11	-13	-11	-10	-11	-10	-8	-8	-4	-3	-0	4	5	6	5	3		
40	-11	-12	-12	-12	-10	-9	-10	-9	-7	-4	-3	2	4	5	6	3	1		
50	-15	-16	-14	-14	-12	-11	-11	-8	-8	-6	-1	3	7	5	3	-0	-4		
63	-13	-15	-14	-13	-12	-10	-10	-9	-7	-5	-2	2	7	6	4	-3	-8		
80	-15	-15	-15	-13	-11	-11	-10	-10	-8	-5	-2	2	6	7	3	-5	-13		
100	-18	-17	-15	-13	-12	-12	-10	-9	-8	-6	-2	3	6	7	1	-9	-20		
125	-17	-16	-14	-13	-11	-11	-10	-9	-7	-4	-1	4	7	6	-3	-12	-20		
160	-18	-17	-14	-11	-11	-10	-8	-7	-8	-6	0	5	7	5	-5	-14	-22		
200	-16	-16	-12	-12	-10	-11	-11	-8	-8	-6	-0	5	7	4	-9	-17	-21		
250	-16	-16	-13	-12	-12	-11	-11	-9	-8	-5	-0	5	7	6	-11	-19	-20		
315	-13	-16	-12	-11	-12	-12	-10	-9	-7	-3	2	5	7	4	-14	-21	-23		
400	-12	-13	-7	-7	-10	-10	-7	-6	-6	-2	3	4	7	4	-13	-20	-22		
500	-10	-8	-8	-9	-9	-8	-7	-5	-3	-1	1	2	5	7	-10	-21	-23		
630	-8	-9	-8	-7	-7	-9	-6	-6	-5	-3	2	2	3	8	-12	-22	-26		
800	-11	-10	-11	-11	-10	-9	-8	-9	-7	-5	-1	2	4	9	-14	-25	-31		
1000	-14	-13	-12	-11	-12	-12	-10	-9	-9	-7	-2	2	5	9	-17	-25	-31		
1250	-15	-15	-12	-12	-12	-12	-10	-9	-7	-4	-0	5	5	8	-18	-26	-31		
1600	-16	-14	-12	-12	-11	-12	-10	-7	-5	-2	2	5	5	6	-18	-25	-32		
2000	-16	-15	-11	-12	-12	-12	-9	-6	-4	-1	2	3	5	7	-19	-23	-30		
2500	-16	-15	-11	-10	-10	-11	-7	-5	-3	-1	3	4	5	5	-19	-21	-30		
3150	-17	-16	-11	-11	-11	-11	-6	-4	-3	-1	3	3	5	6	-19	-22	-29		
4000	-19	-19	-11	-11	-11	-11	-6	-4	-3	0	3	4	4	5	-19	-24	-31		
5000	-21	-20	-12	-12	-10	-12	-7	-5	-2	0	3	4	4	5	-19	-25	-31		
6300	-22	-21	-13	-13	-11	-13	-8	-4	-2	0	3	3	5	6	-19	-25	-32		
8000	-24	-22	-13	-14	-12	-14	-8	-6	-3	-1	2	3	5	6	-19	-27	-32		
10000	-25	-25	-16	-16	-14	-16	-11	-8	-4	-2	2	3	6	7	-22	-29	-35		
OCTAVE																			
31.5	-12	-12	-12	-12	-10	-10	-9	-8	-7	-5	-3	1	4	5	6	4	2		
63	-14	-15	-15	-13	-12	-11	-10	-9	-8	-5	-2	2	6	6	3	-3	-8		
125	-18	-17	-14	-12	-11	-11	-9	-8	-8	-5	-1	4	7	5	-3	-12	-21		
250	-15	-16	-13	-11	-11	-12	-11	-9	-7	-4	1	5	7	5	-11	-19	-22		
500	-10	-10	-8	-8	-9	-9	-7	-6	-4	-2	2	3	6	6	-12	-21	-23		
1000	-13	-12	-12	-11	-11	-11	-9	-9	-8	-5	-1	3	5	9	-16	-25	-31		
2000	-16	-15	-11	-11	-11	-12	-9	-6	-4	-2	2	4	5	6	-19	-23	-31		
4000	-18	-18	-11	-11	-11	-11	-6	-4	-3	-0	3	4	5	5	-19	-23	-30		
8000	-23	-21	-13	-14	-12	-14	-9	-5	-3	-0	3	3	5	6	-19	-26	-32		
OVERALL	-13	-13	-11	-10	-11	-11	-9	-7	-6	-3	1	4	6	6	-8	-14	-18		

FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90

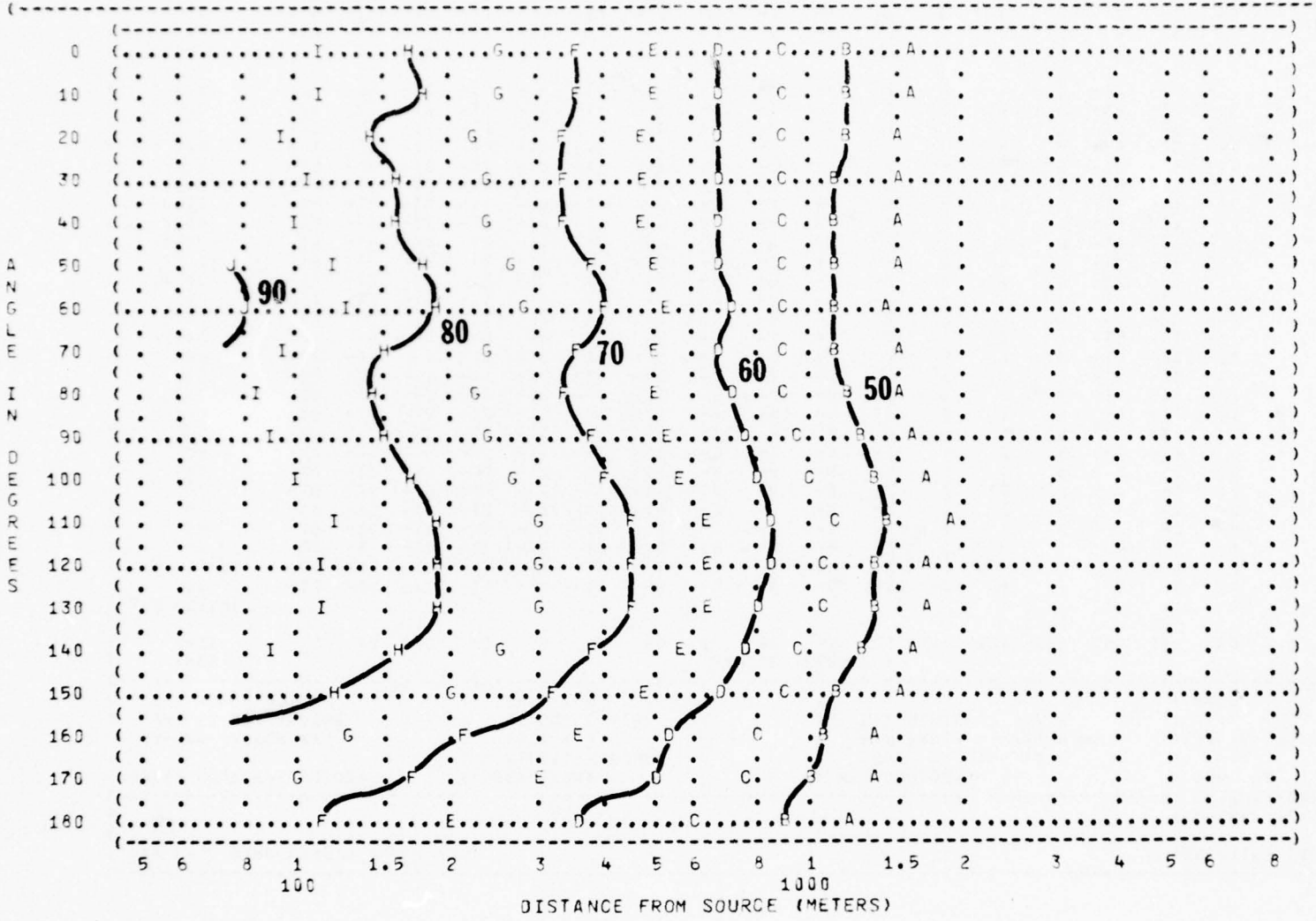


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

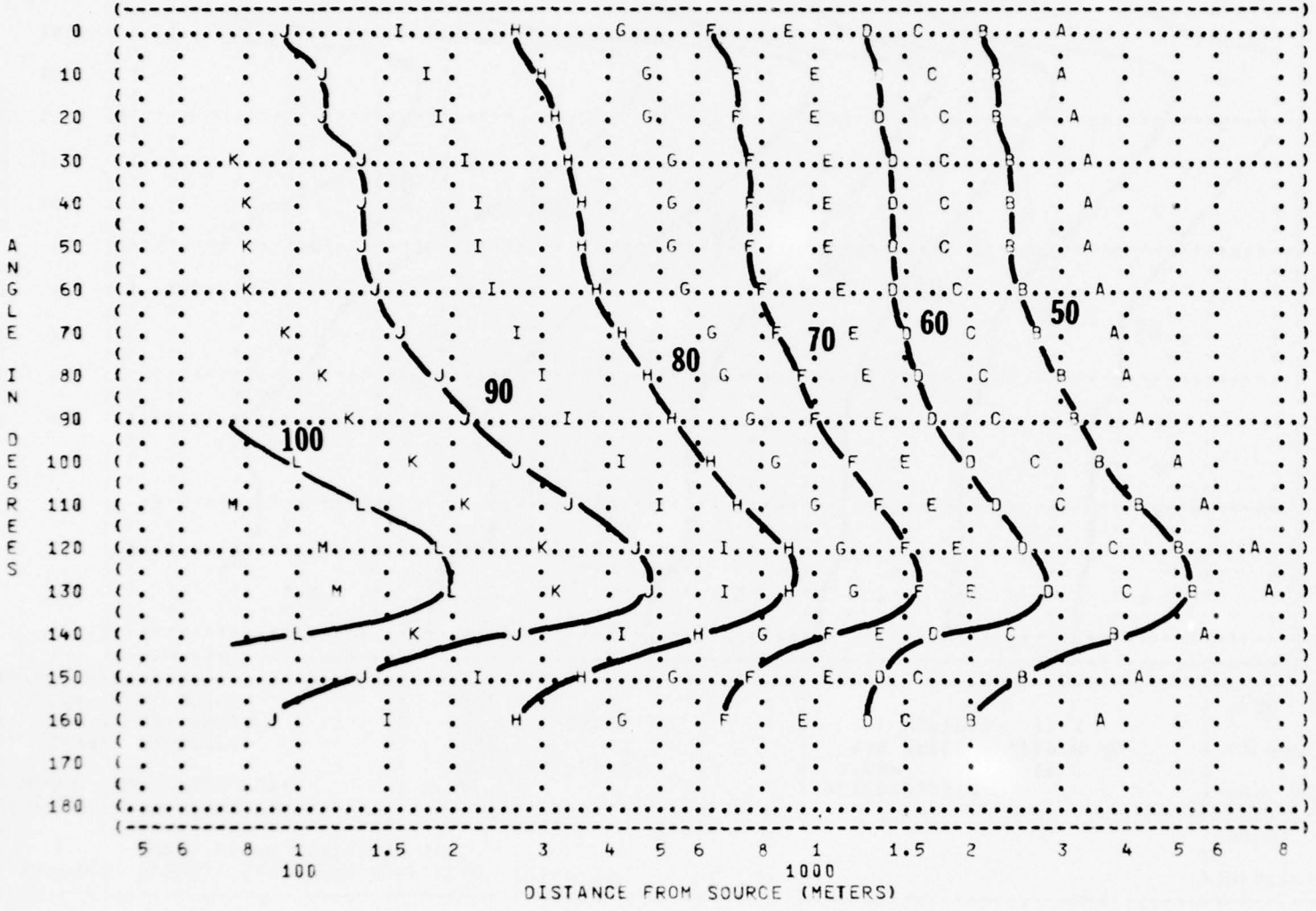


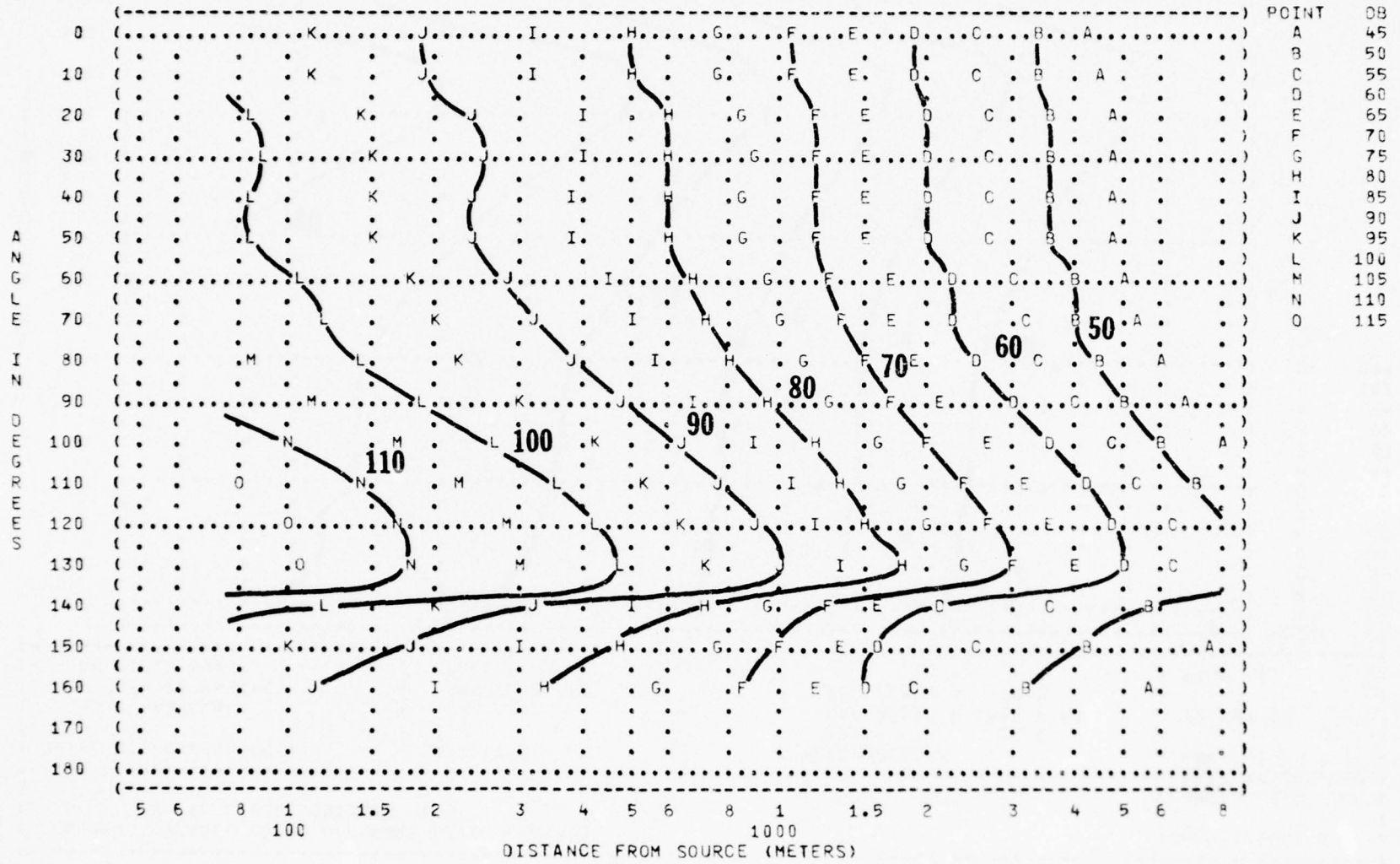
FIGURE: 5 OVERALL SOUND PRESSURE LEVEL (OASPL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 13

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115

FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DBC
A	45
B	50
C	55
D	50
E	65
F	70
G	75
H	80
I	85

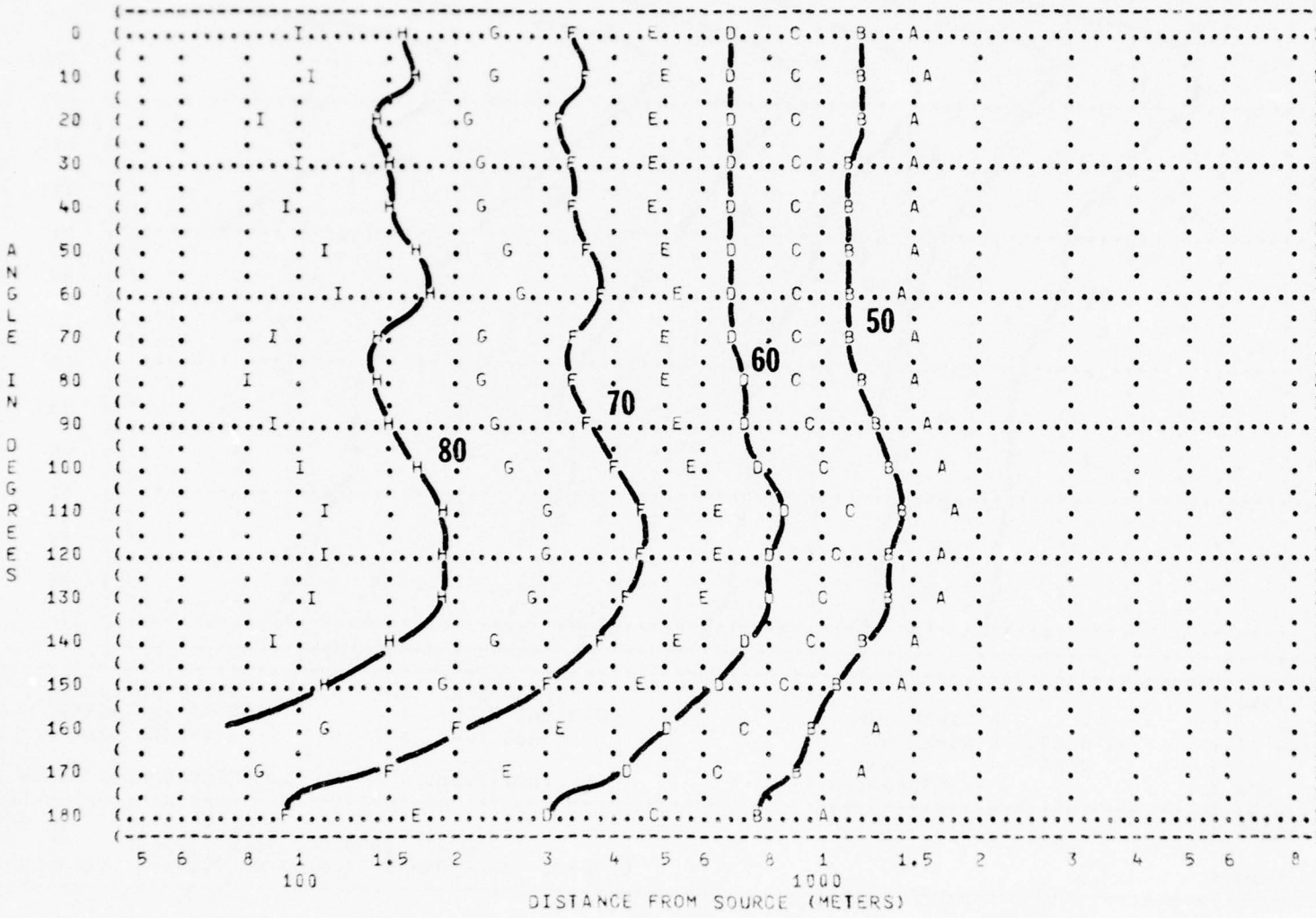


FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105

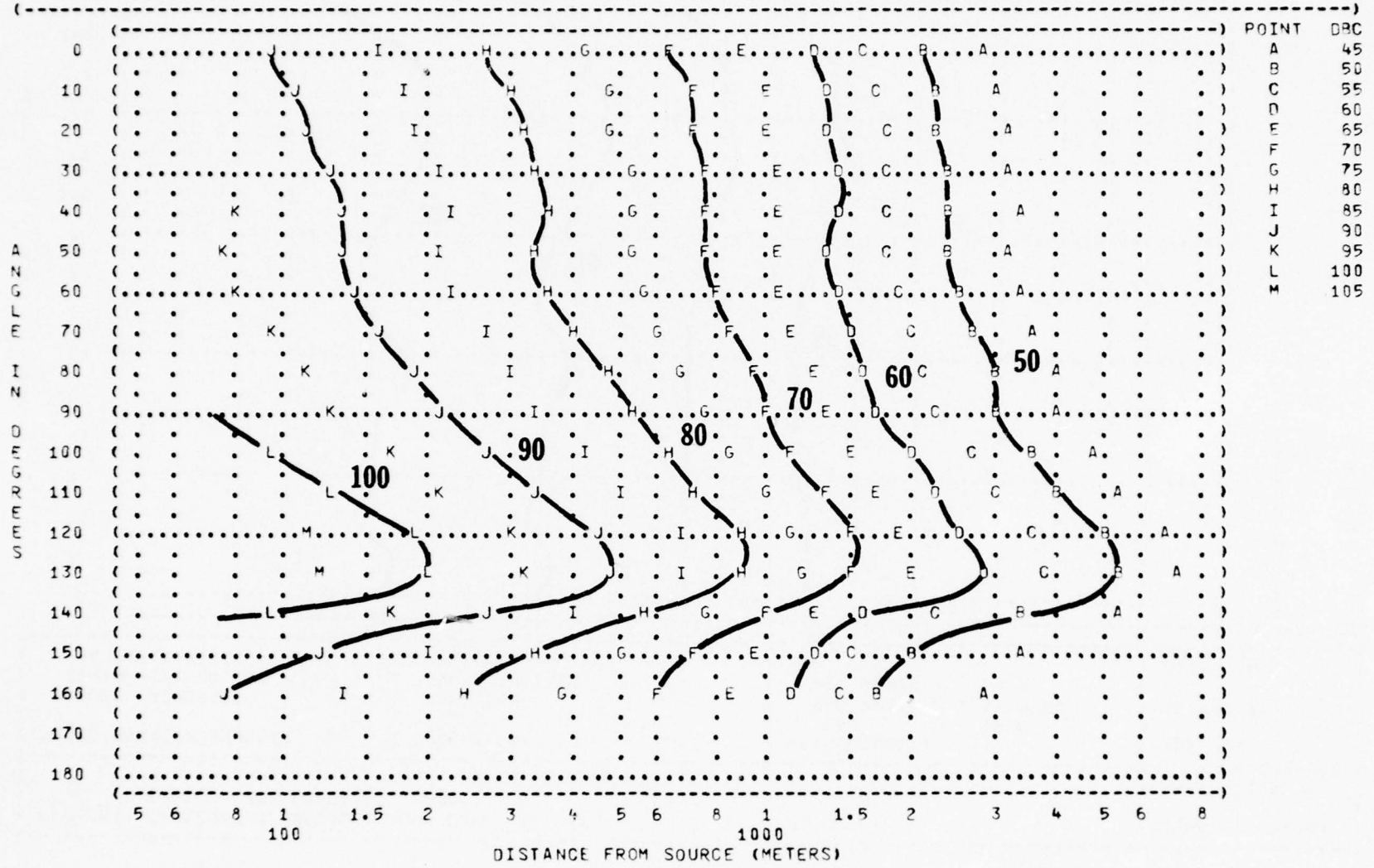


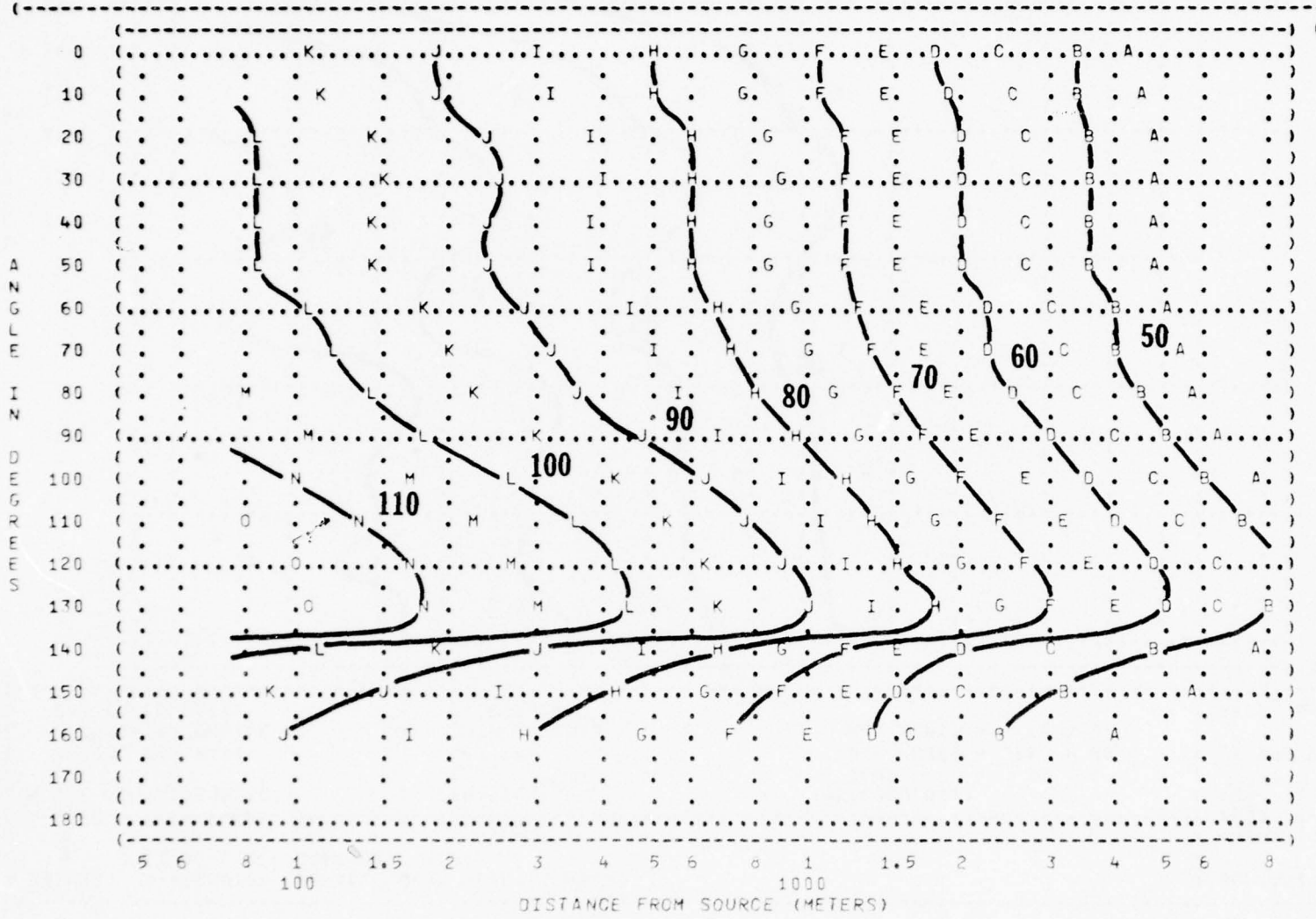
FIGURE: 6 C-WEIGHTED OVERALL SOUND LEVEL (OASLC) EQUAL LEVEL CONTOURS (DBC)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 14

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBC
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115

FIGURE 7 A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90

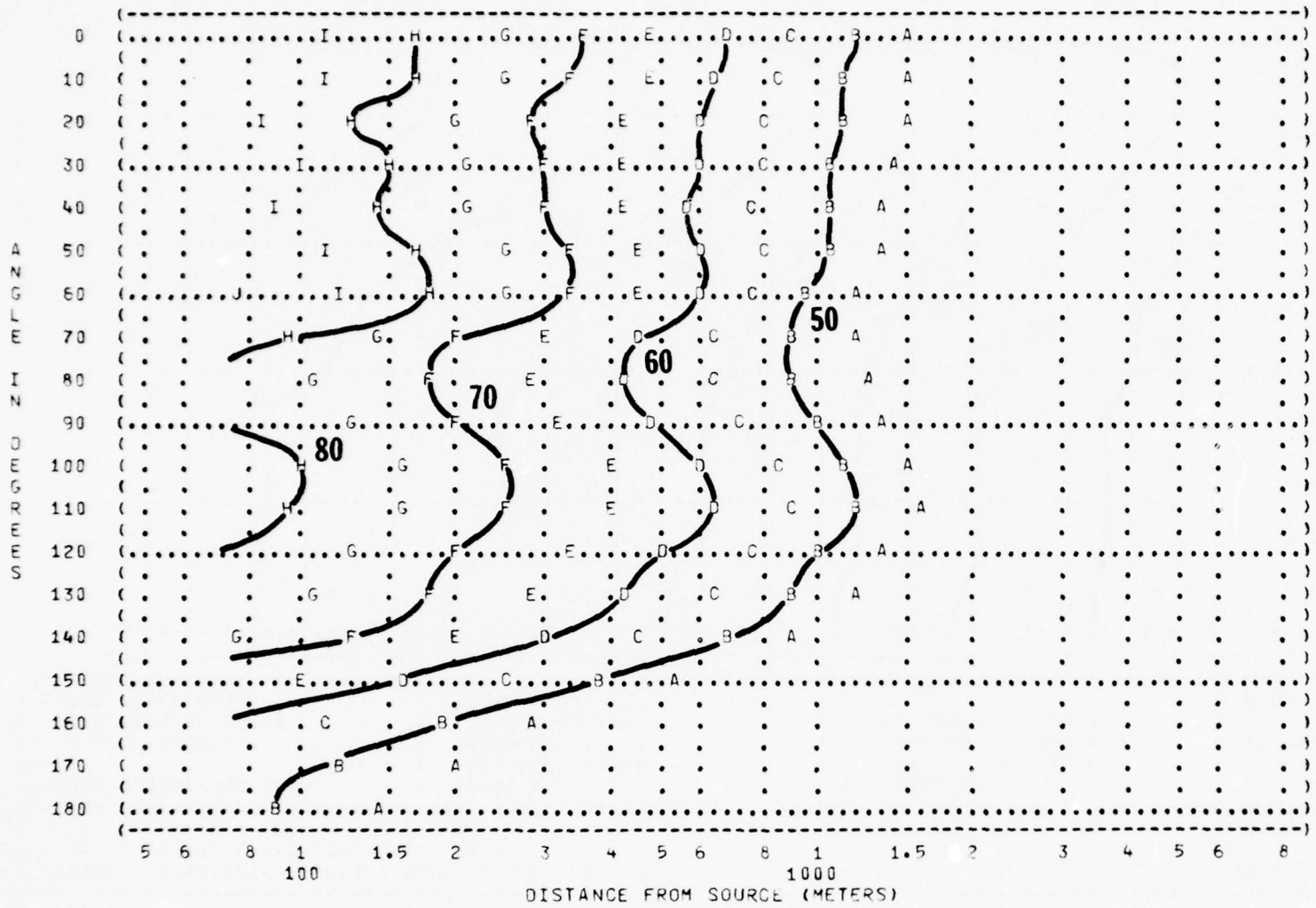


FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 15

POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100

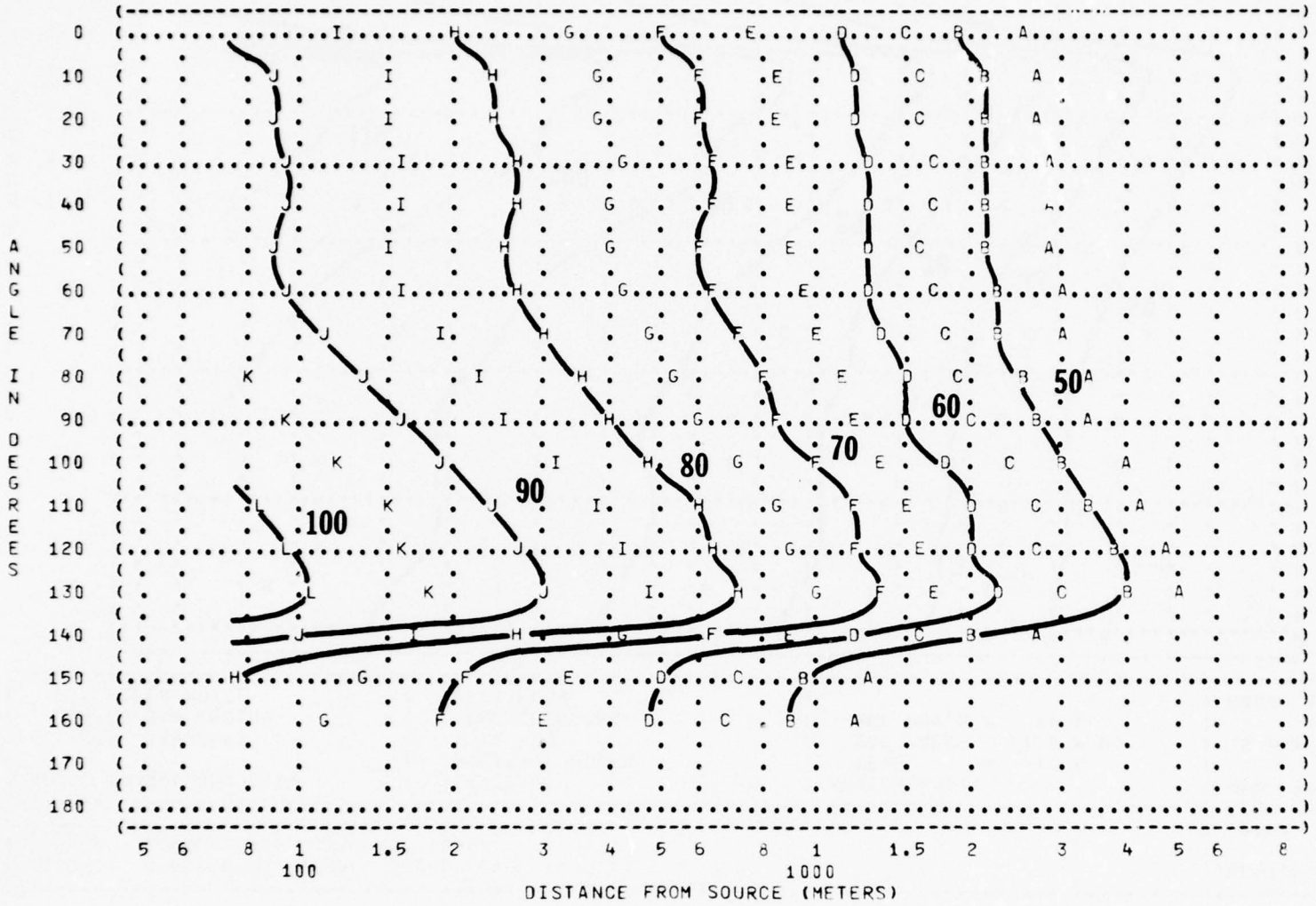


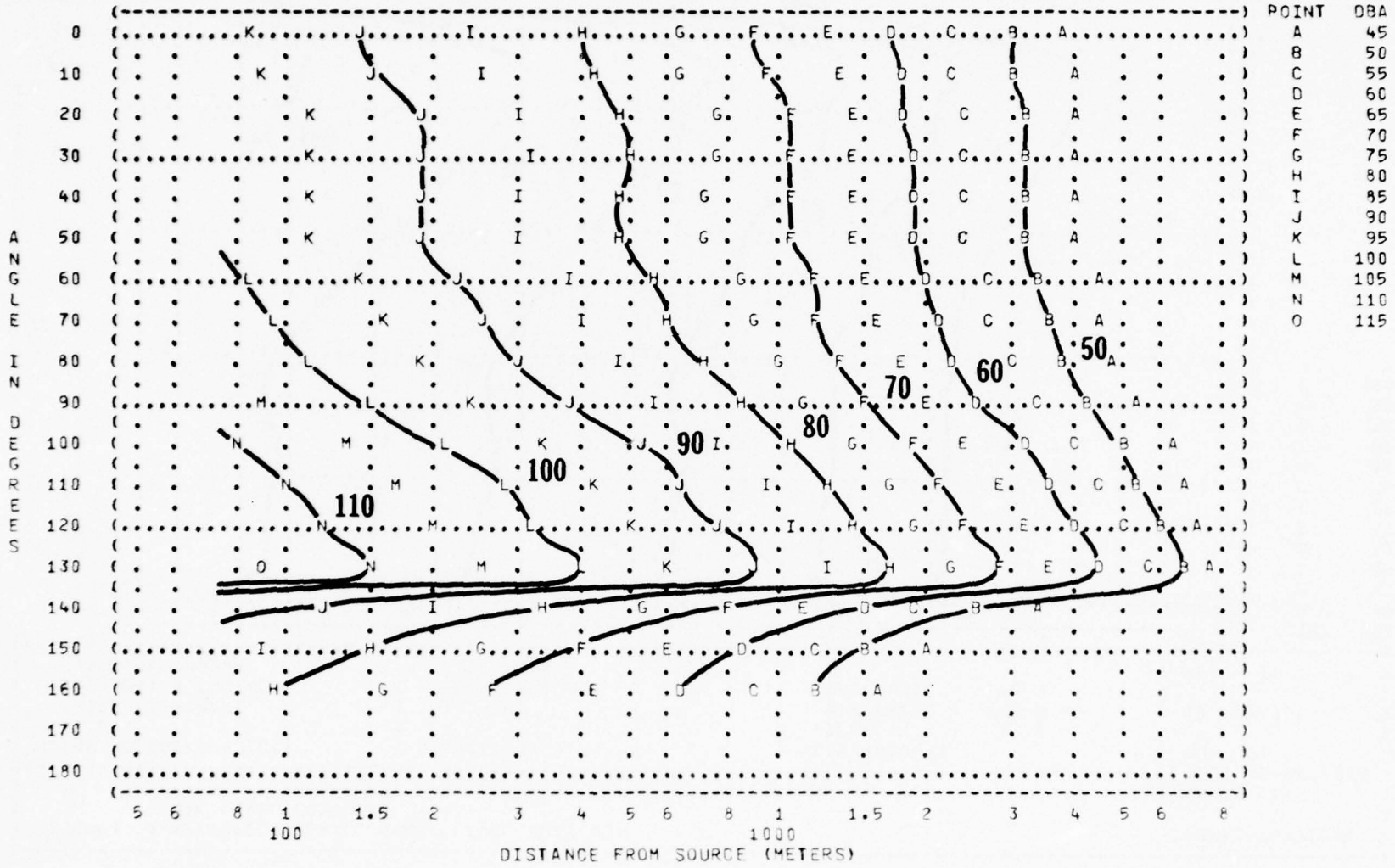
FIGURE 7: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) EQUAL LEVEL CONTOURS (DBA)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 15

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DBA
A	45
B	50
C	55
D	60
E	65
F	70
G	75
H	80
I	85
J	90
K	95
L	100
M	105
N	110
O	115

FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110

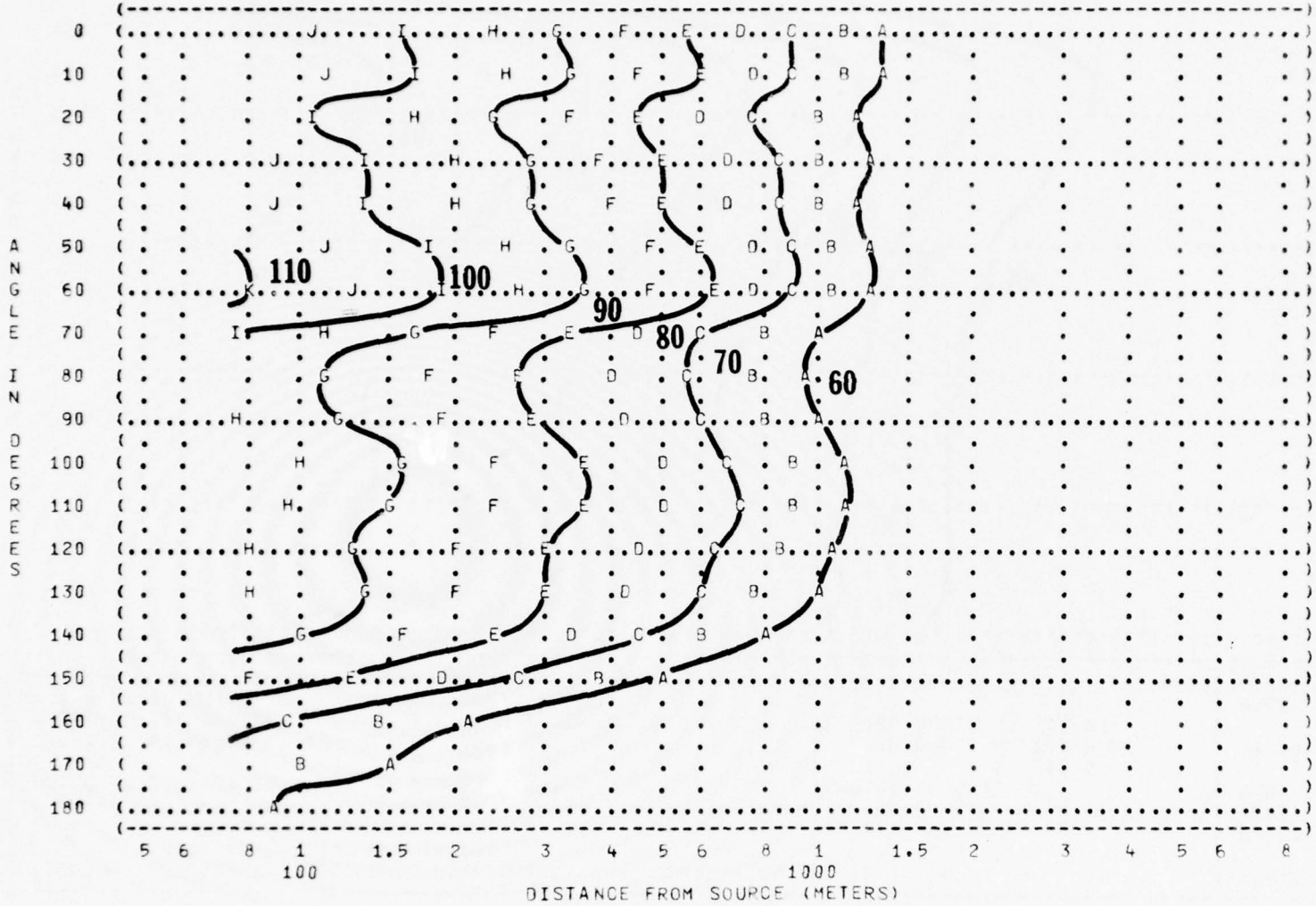


FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-378 AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115

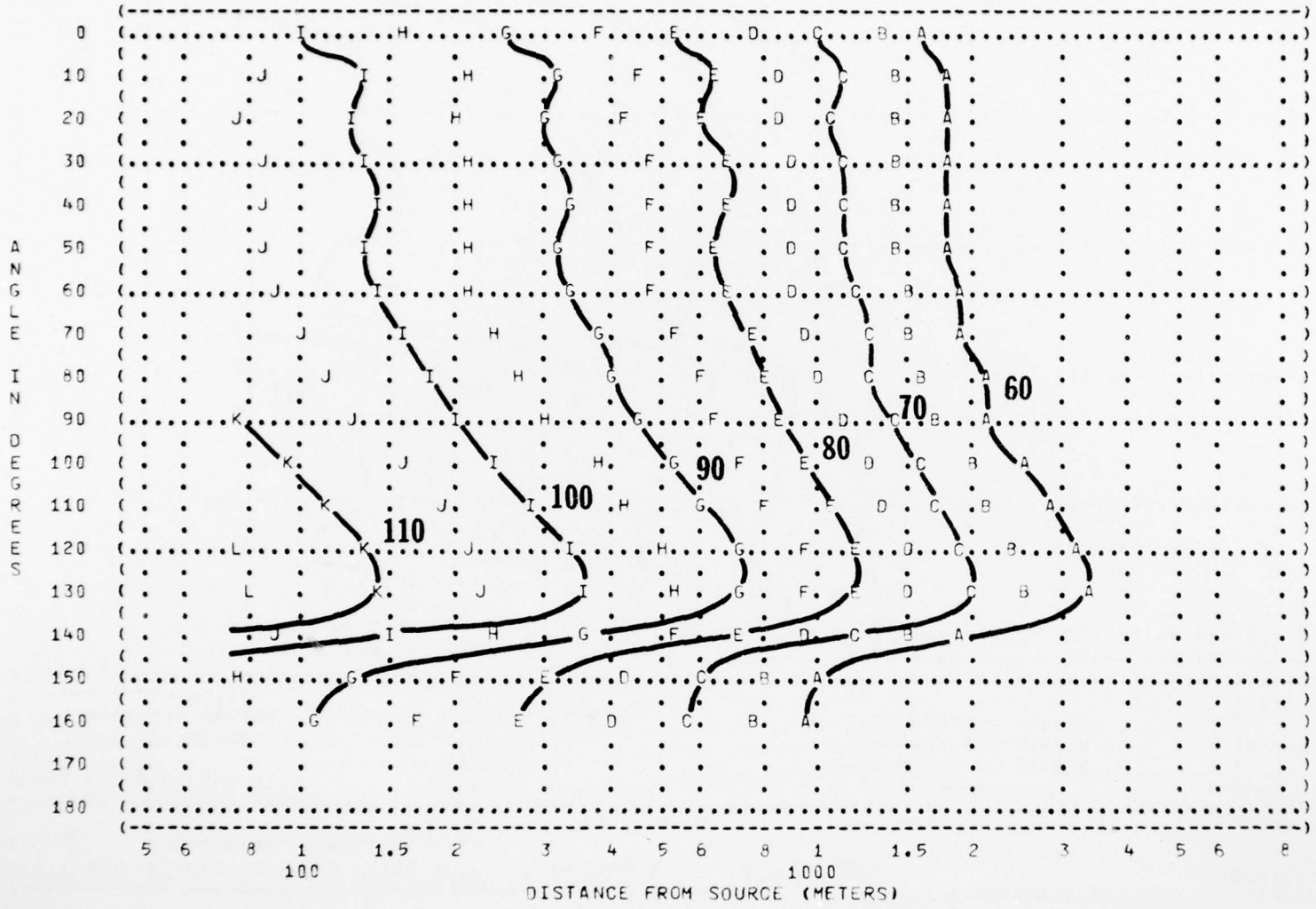


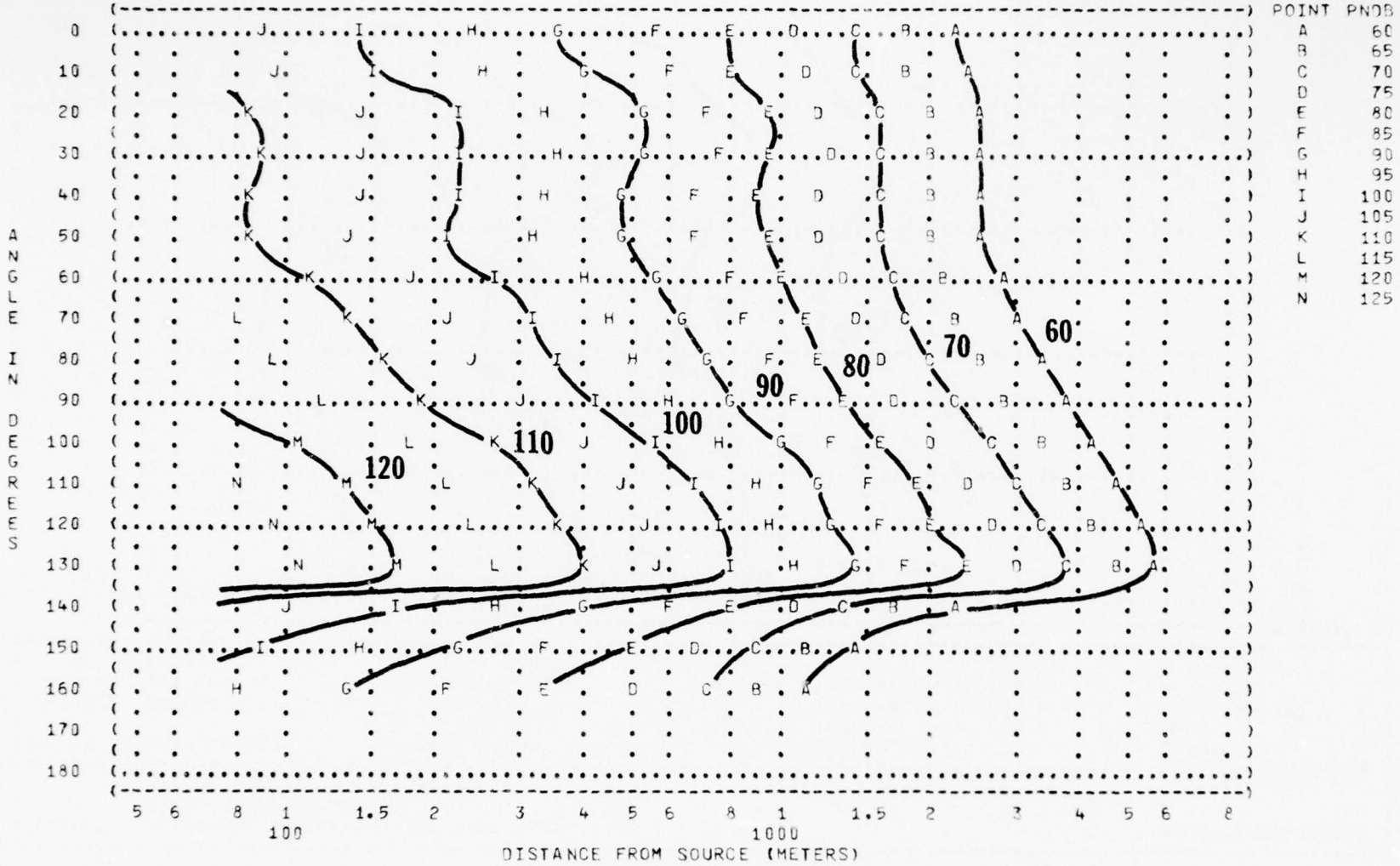
FIGURE: 8 PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) EQUAL LEVEL CONTOURS (PNDB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 16

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	PNDB
A	60
B	65
C	70
D	75
E	80
F	85
G	90
H	95
I	100
J	105
K	110
L	115
M	120
N	125

FIGURE: 9 PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

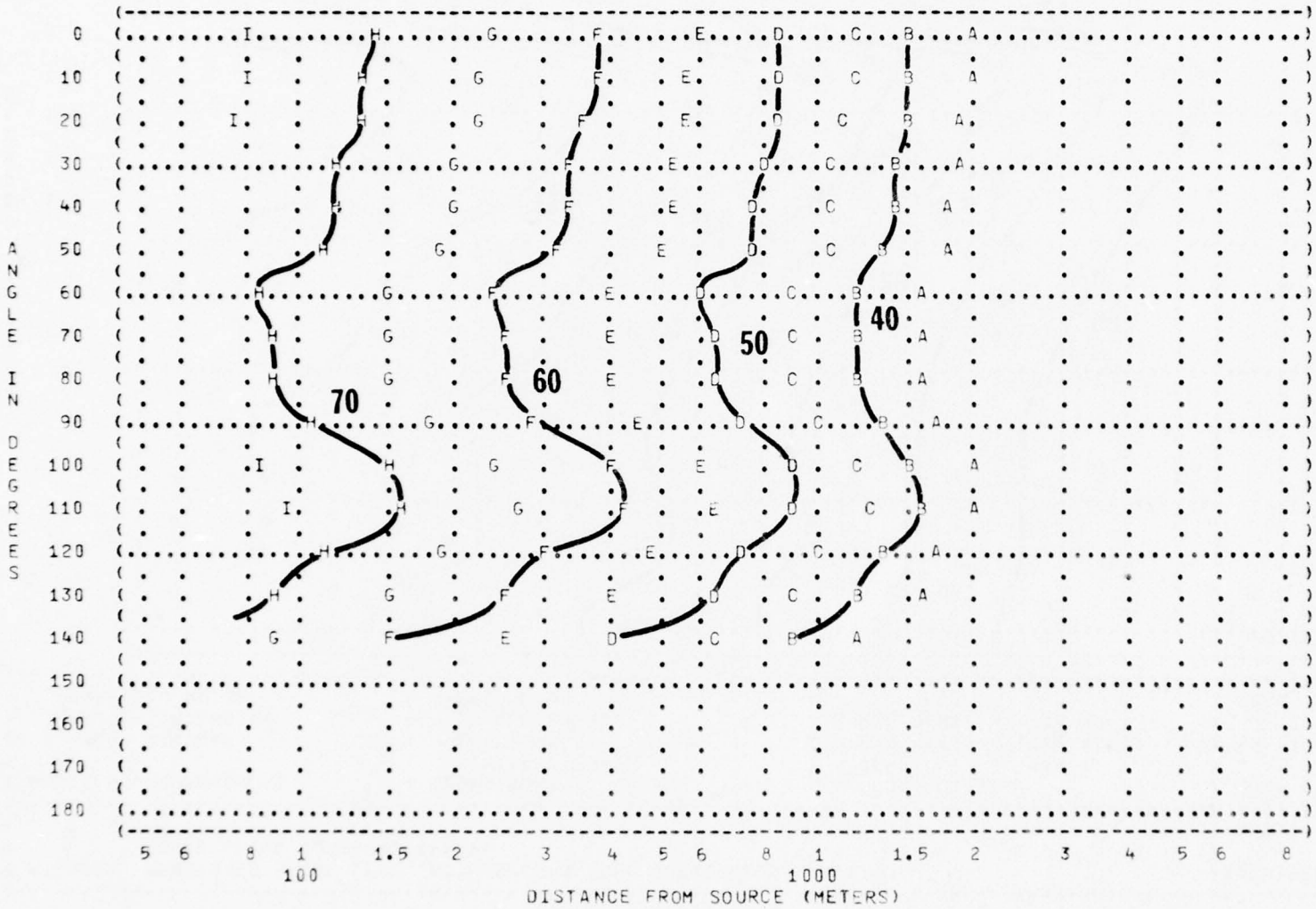


FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

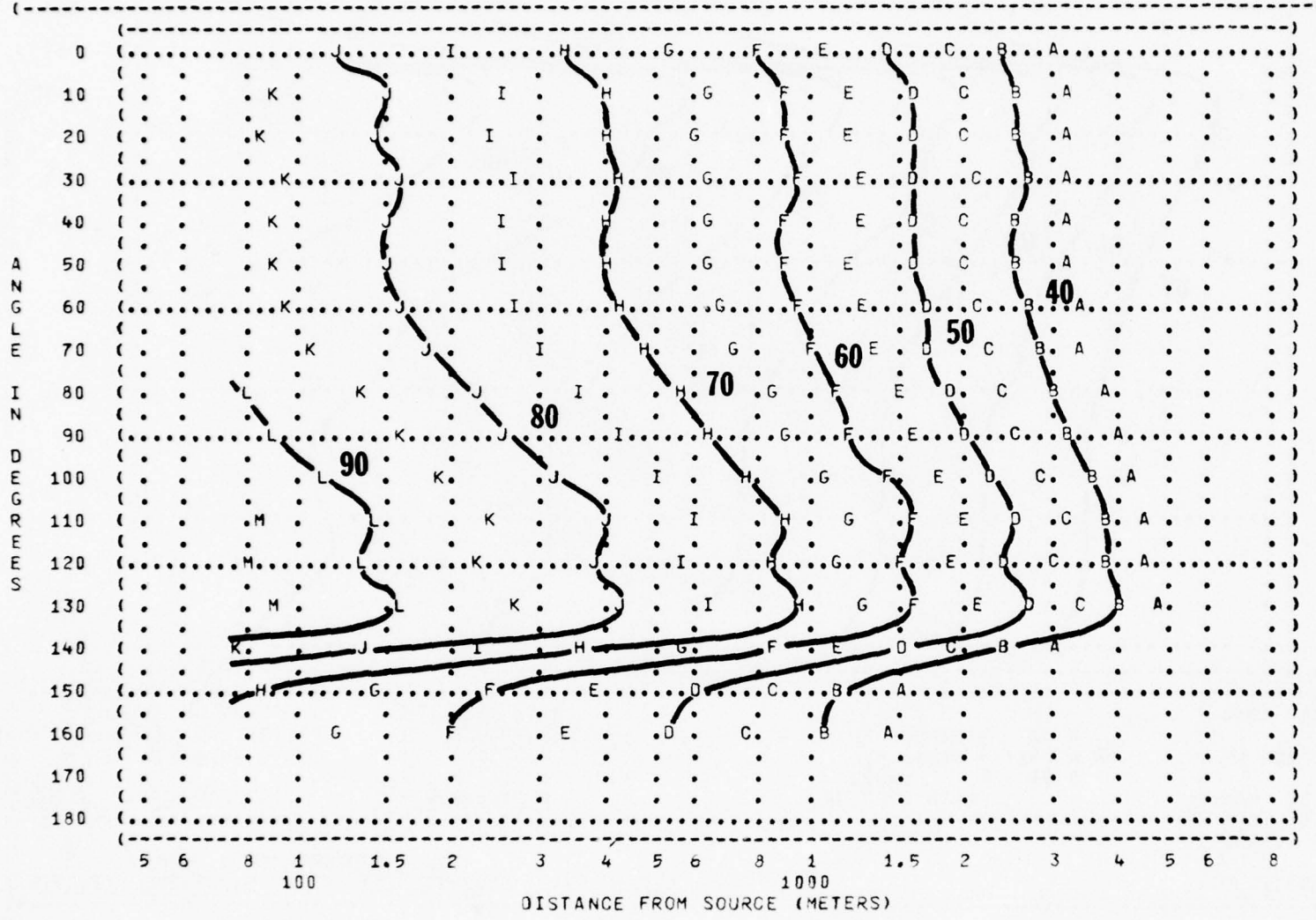


FIGURE 9: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
EQUAL LEVEL CONTOURS (DB)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 17

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

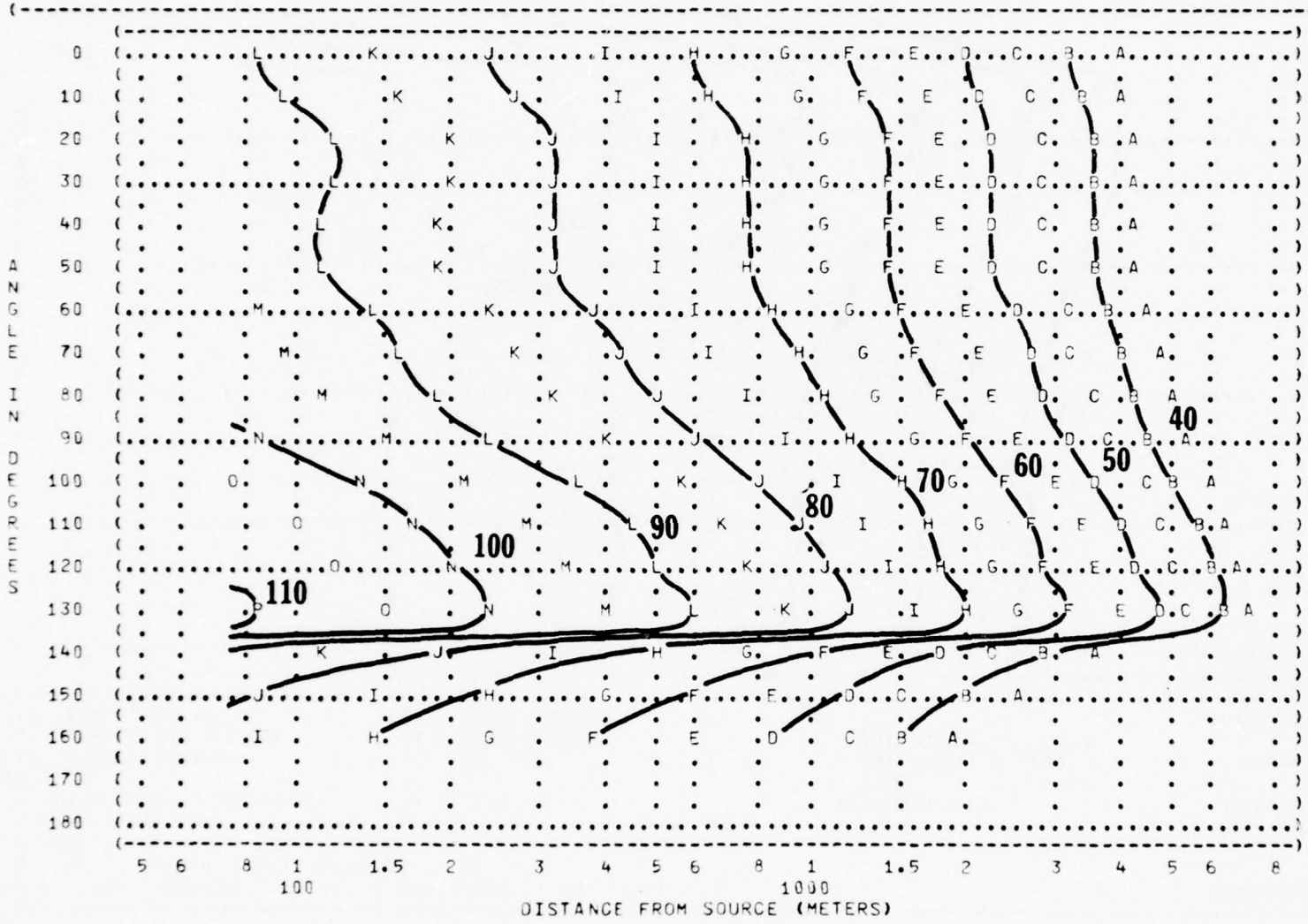


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

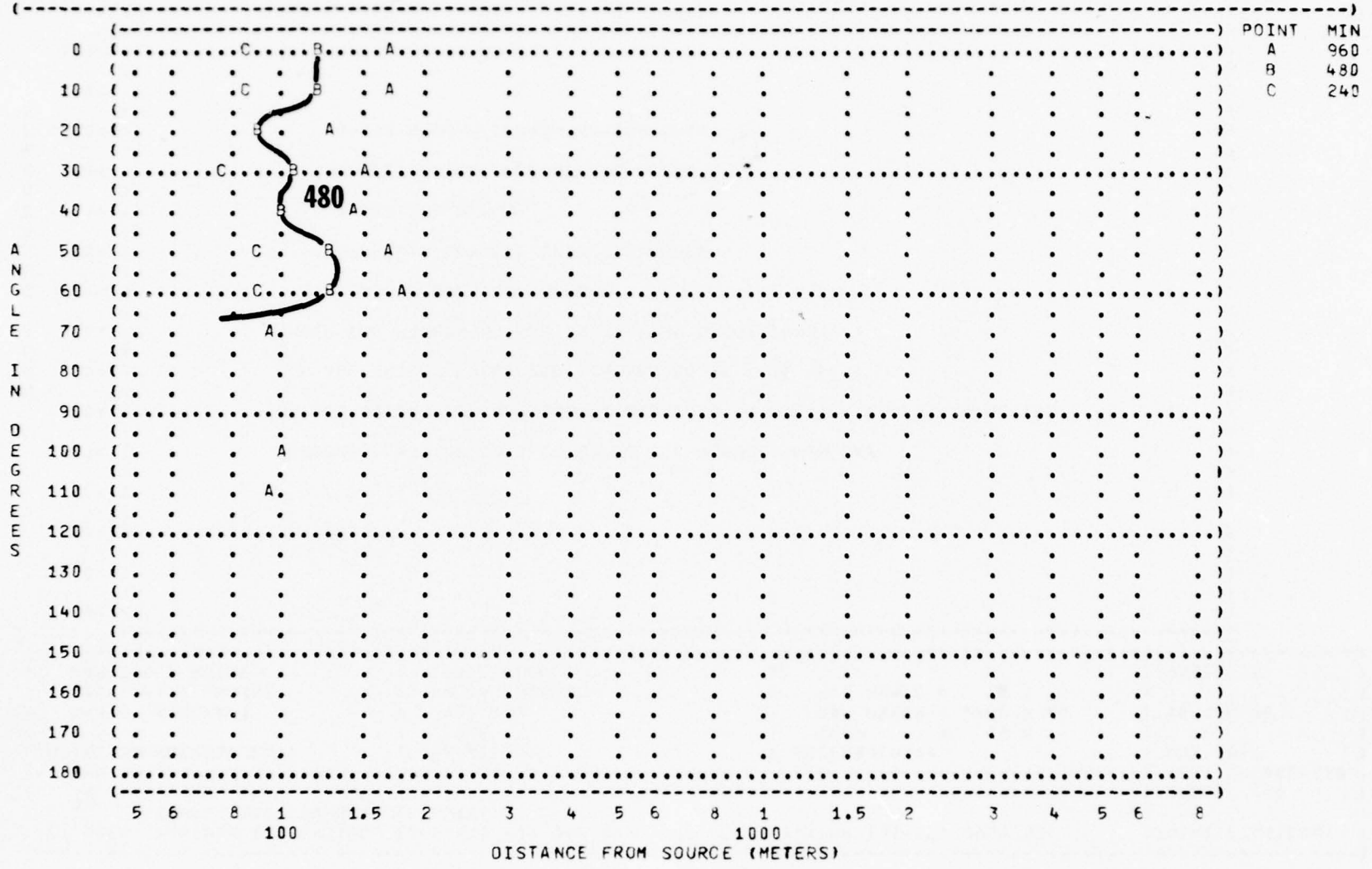


FIGURE: 10 MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

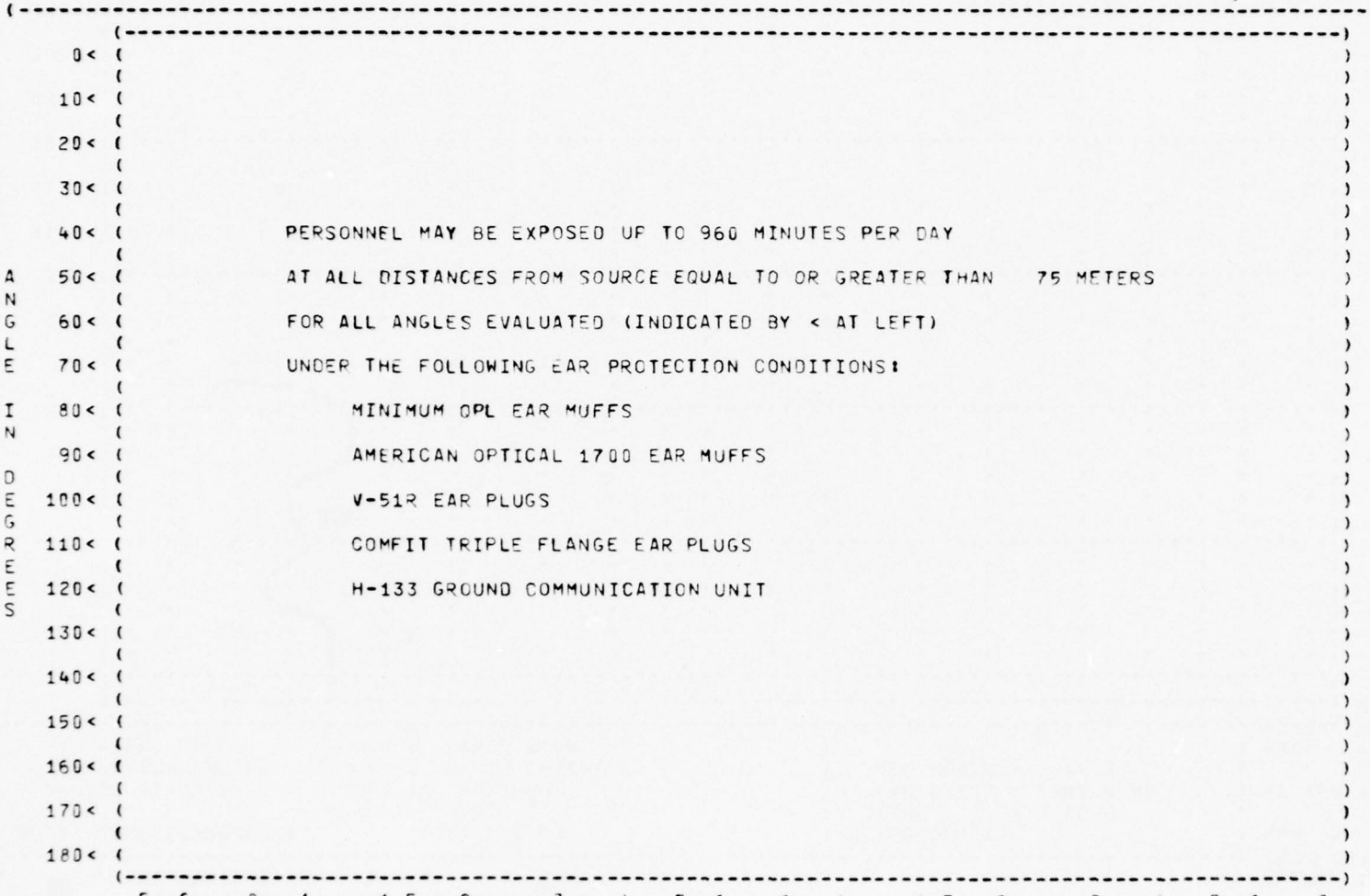


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 7

POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30

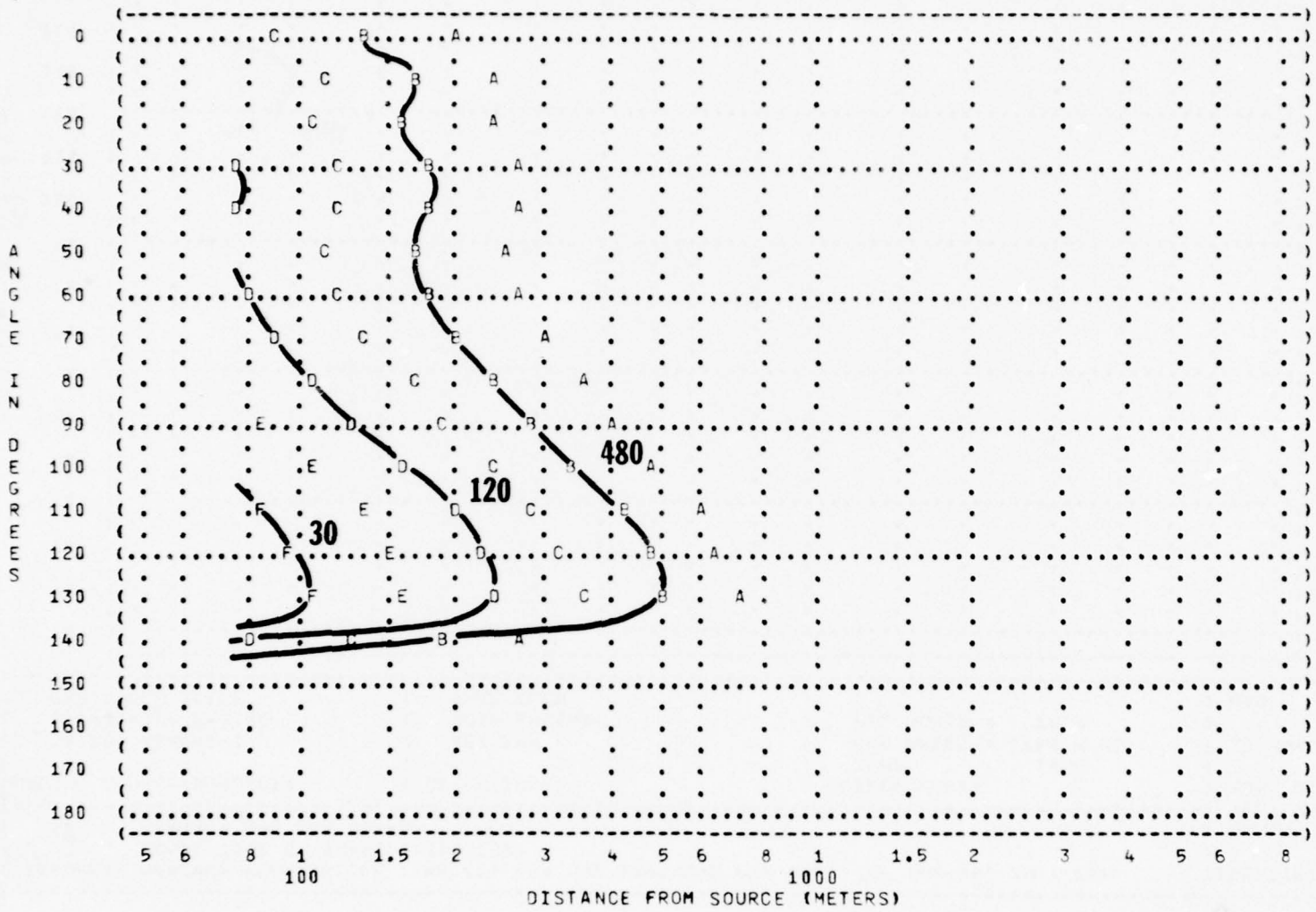


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480

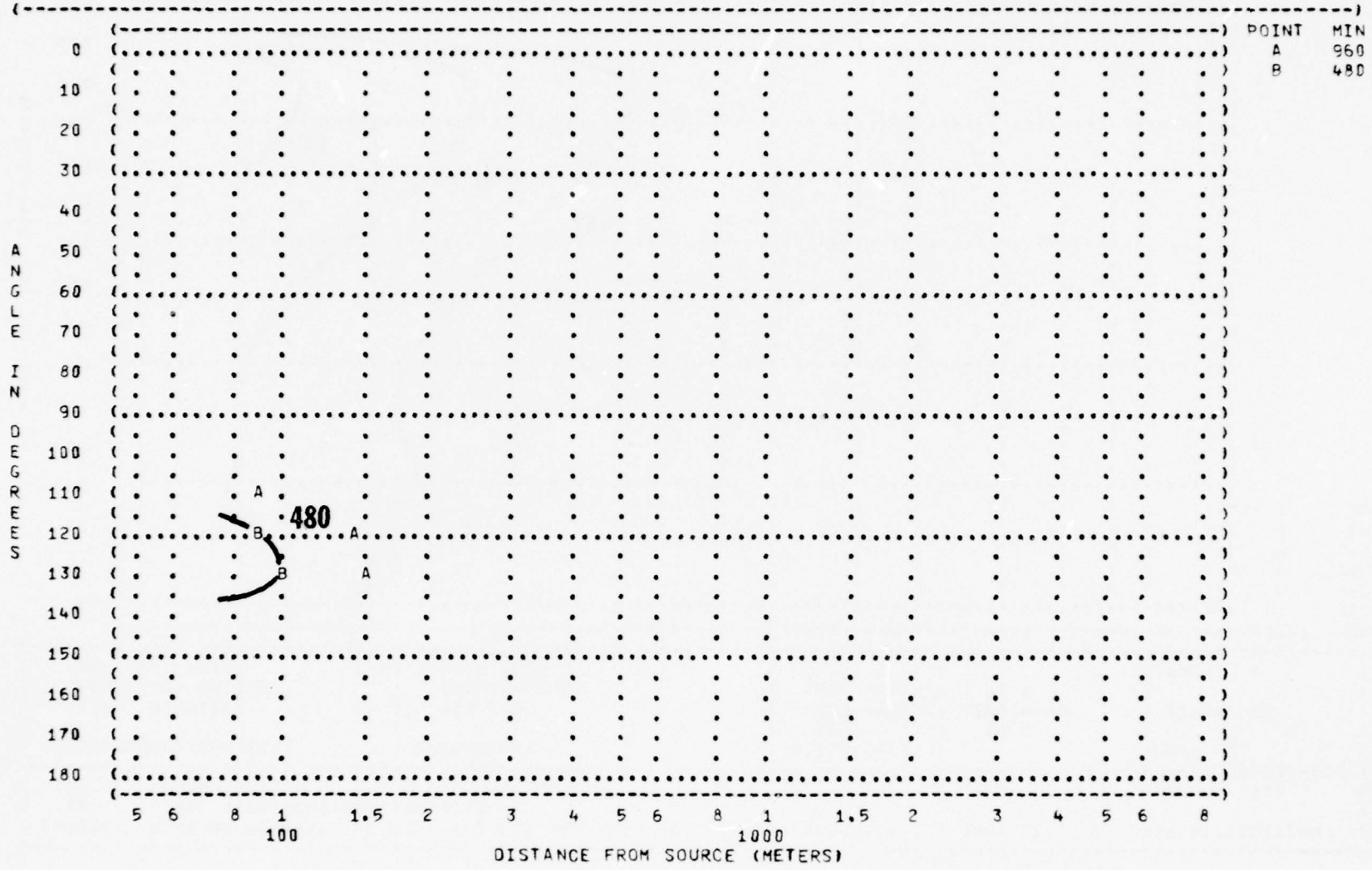


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 9

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960

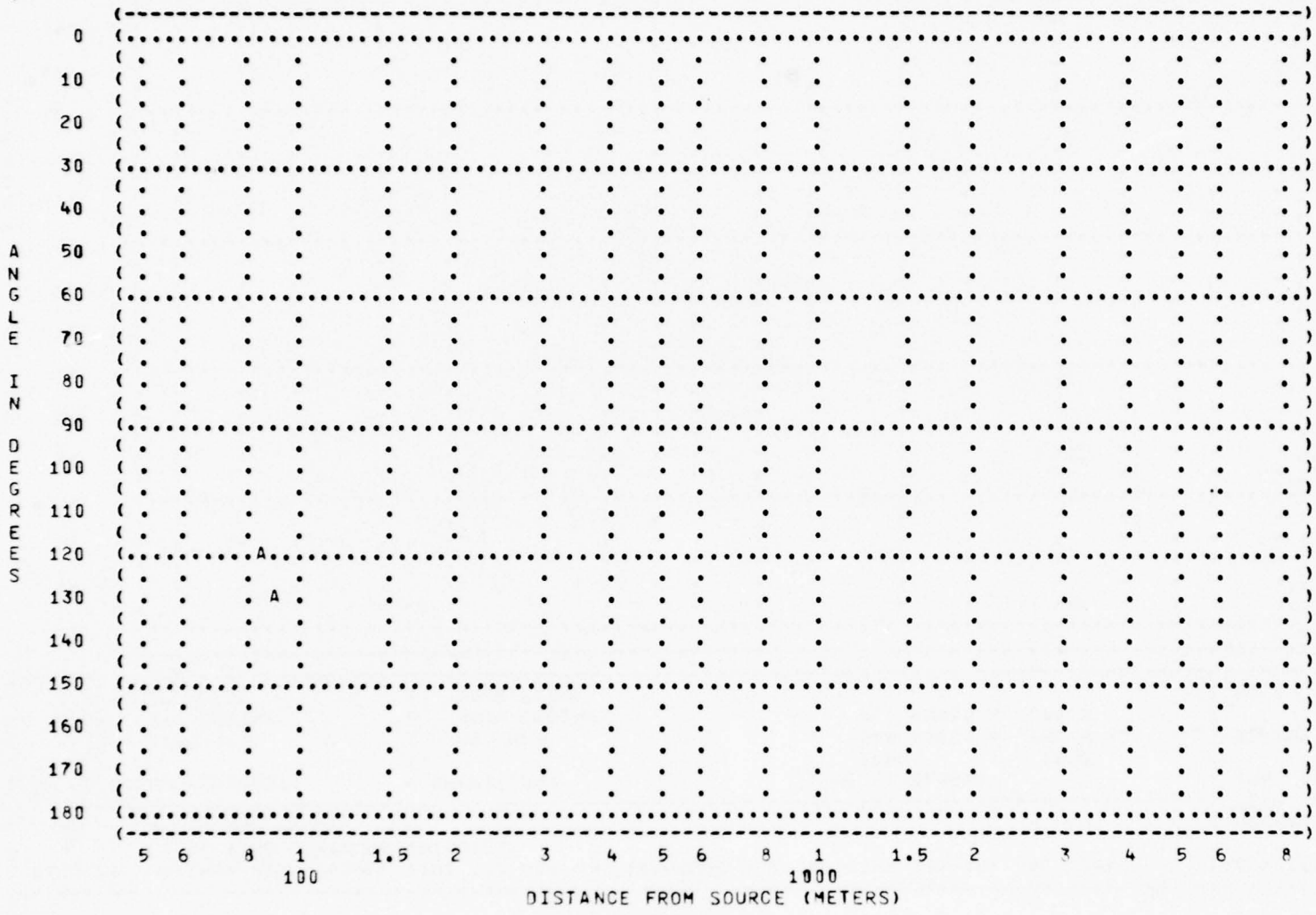


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 10

POINT A MIN 960

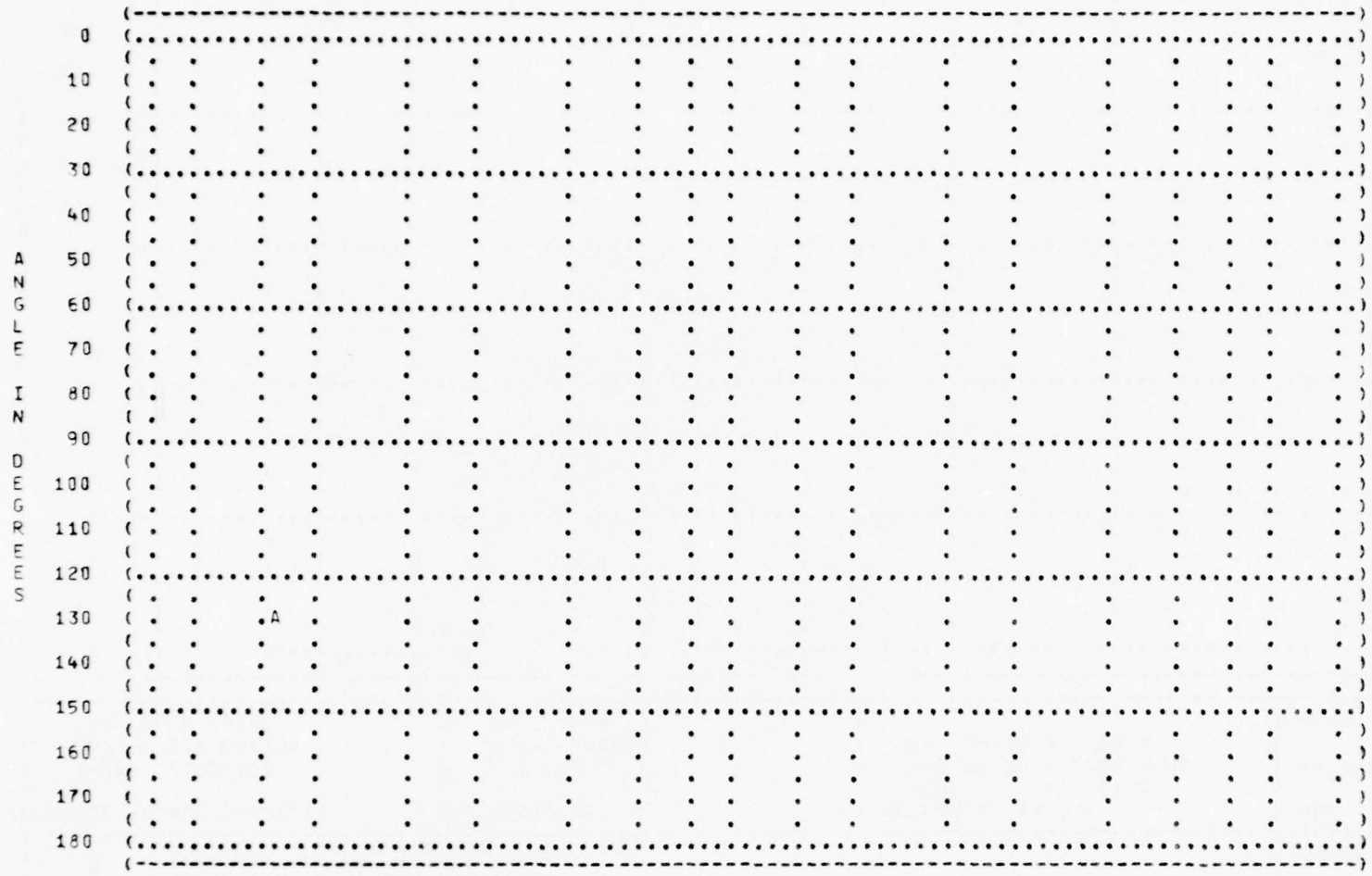


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01

13 MAY 75

PAGE 11

POINT MIN
A 960

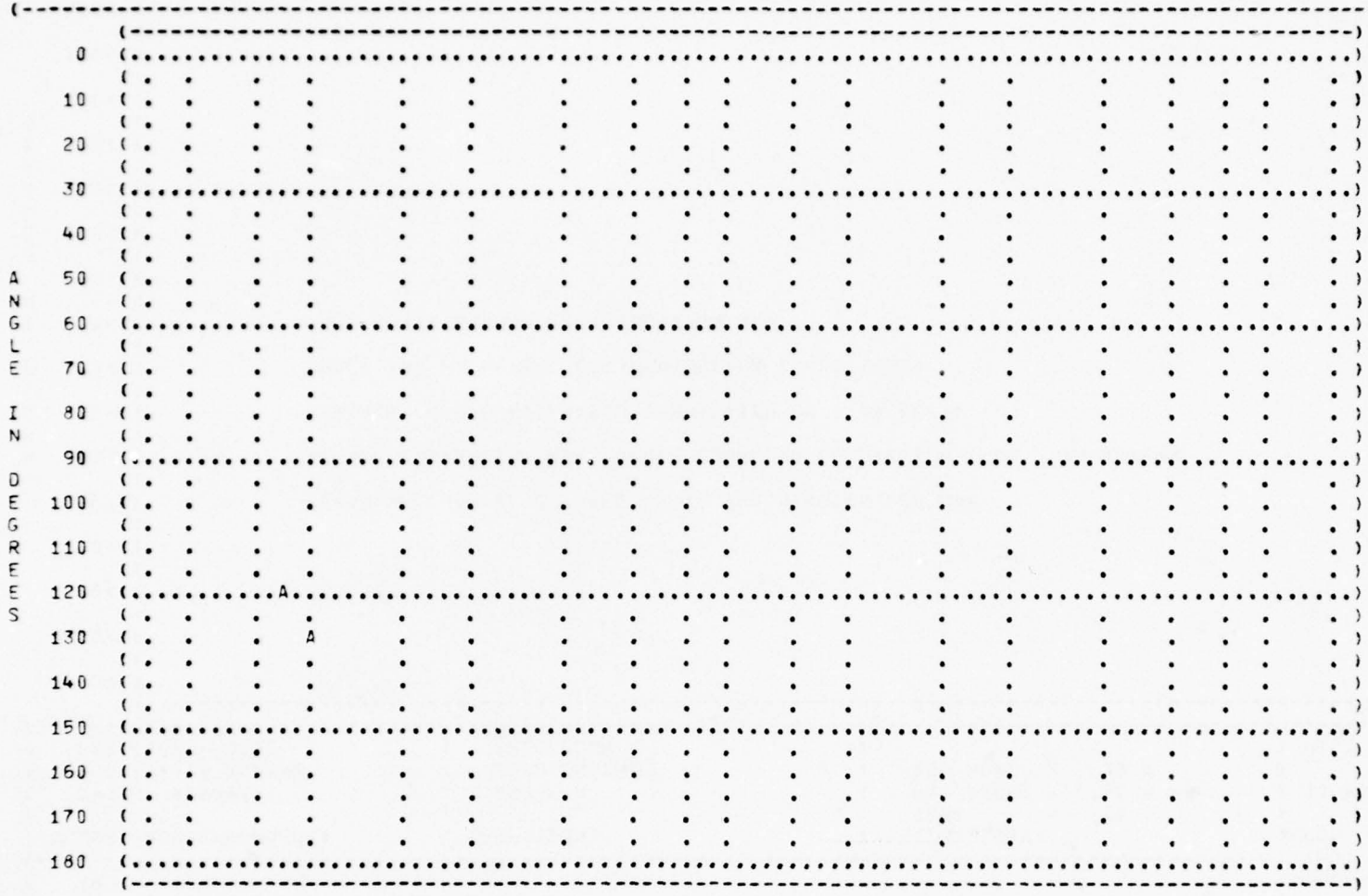


FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 12

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

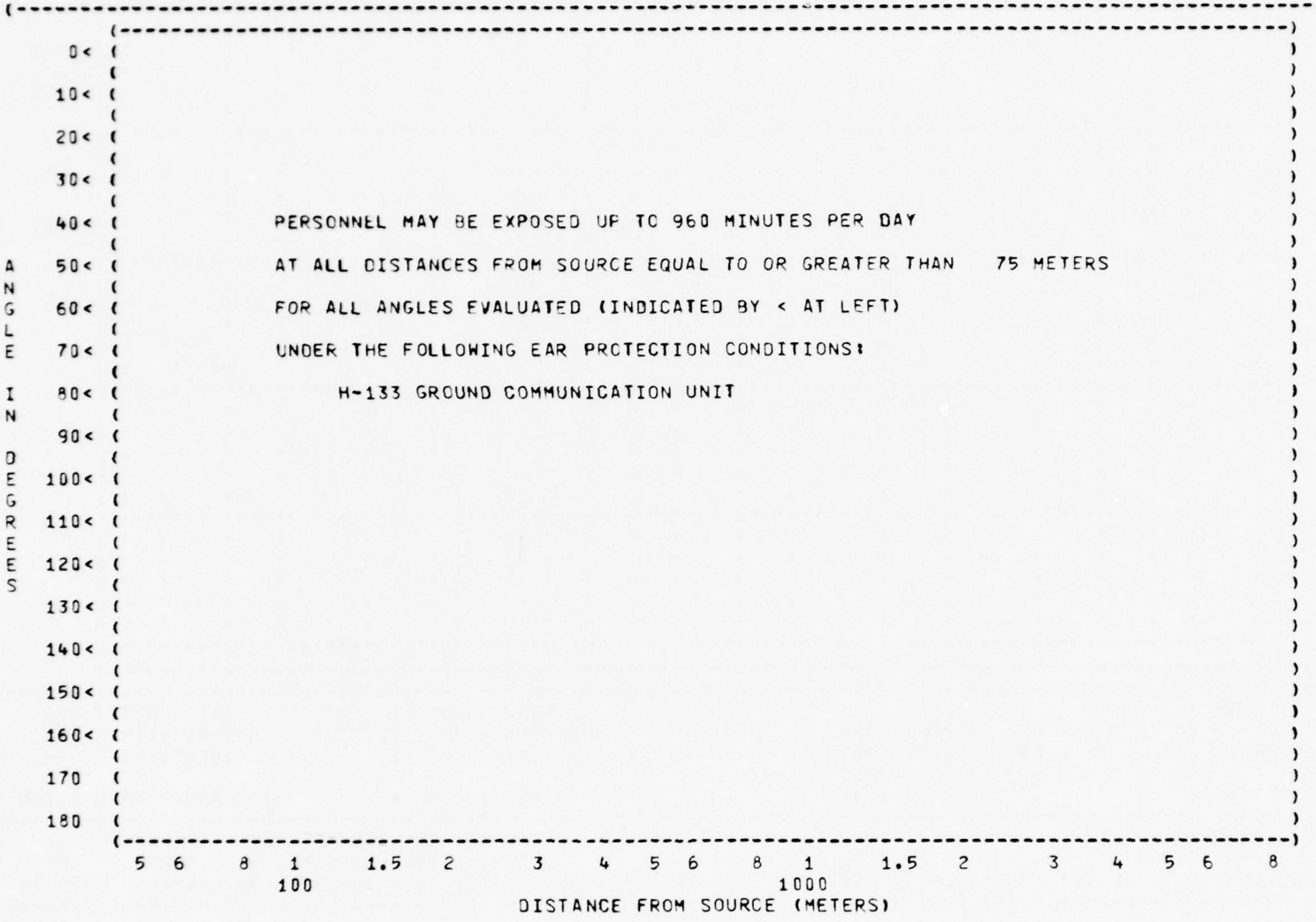


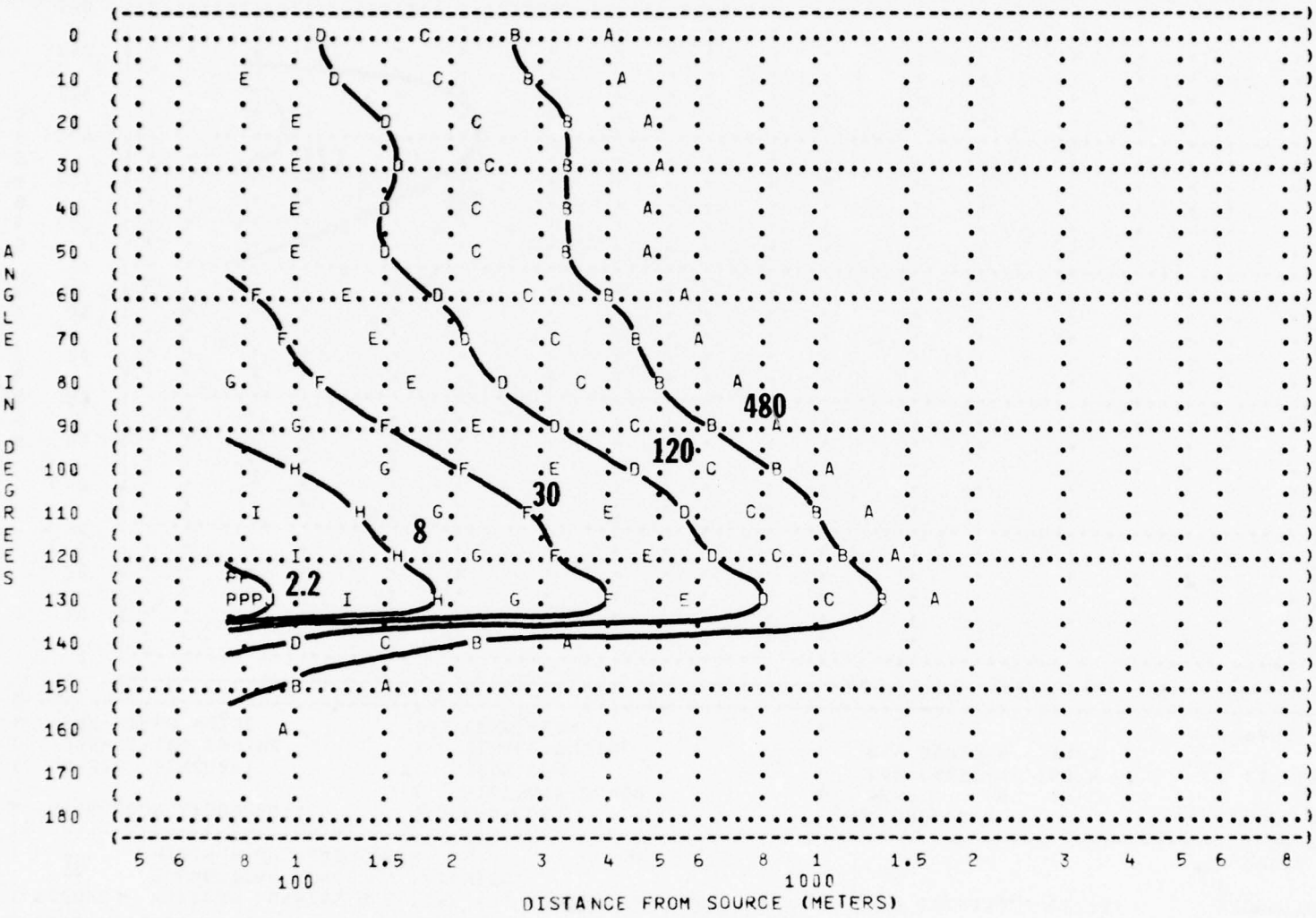
FIGURE 10: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
NO PROTECTION

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 7

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	MIN
A	960
B	480
C	240
D	120
E	60
F	30
G	15
H	8
I	4
J	2.2

P ADDITIONAL EAR PROTECTION REQUIRED.

FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
MINIMUM QPL EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 8

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240
D	120

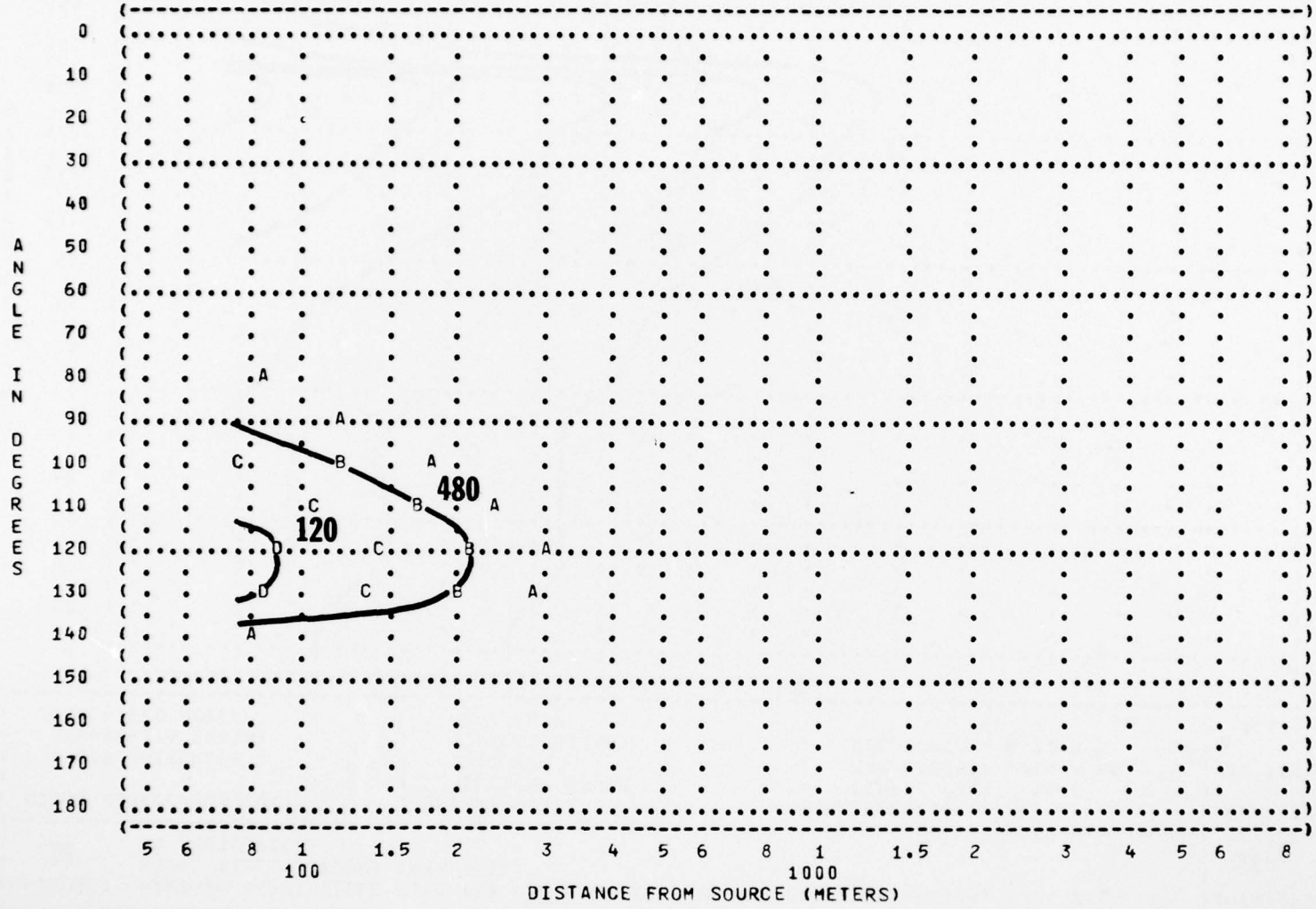


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
AMERICAN OPTICAL 1700 EAR MUFFS

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 9

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	MIN
A	960
B	480
C	240

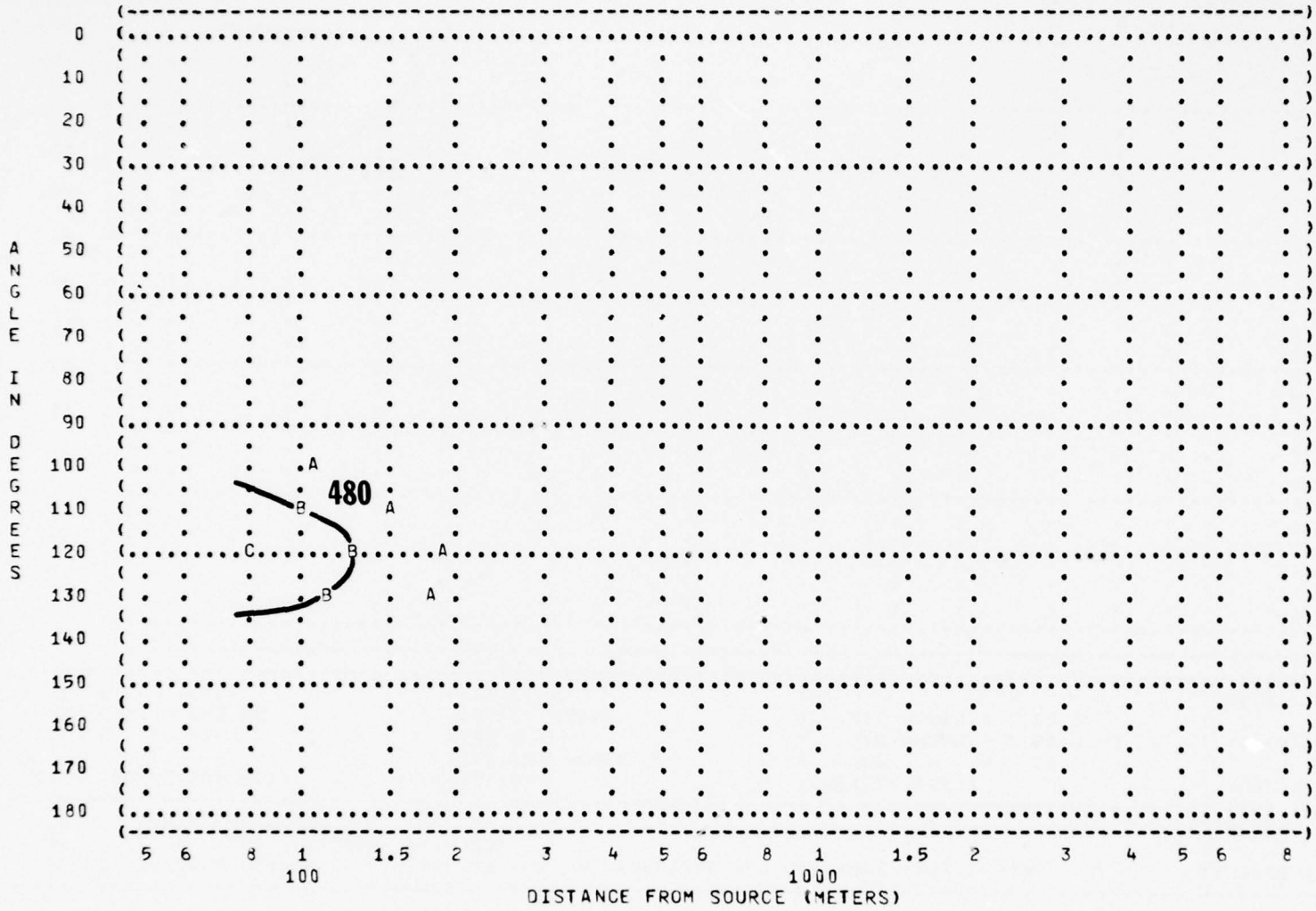


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
V-51R EAR PLUGS

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 10

POINT	MIN
A	960
B	480
C	240

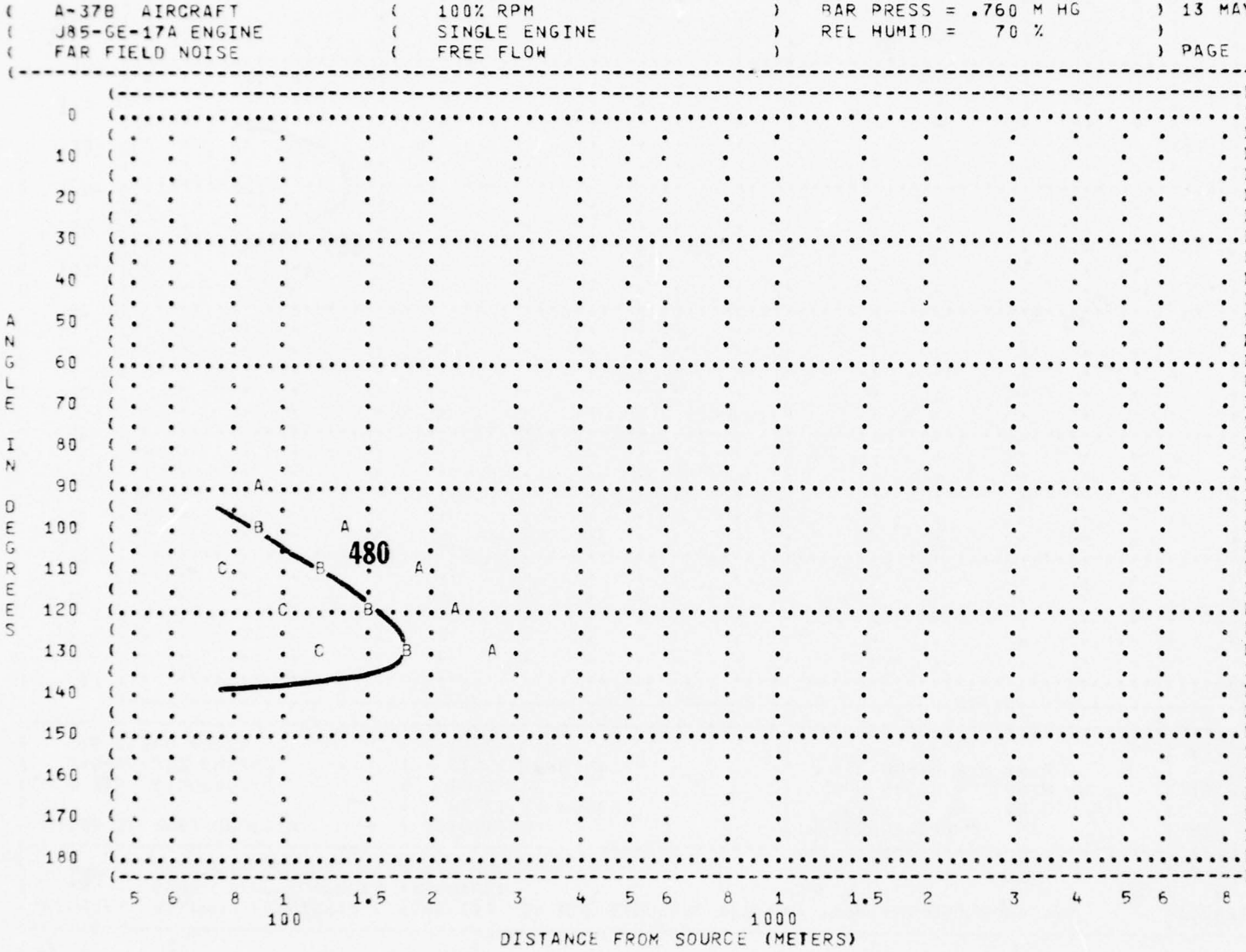


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 11

POINT	MIN
A	960
B	480
C	240
D	120

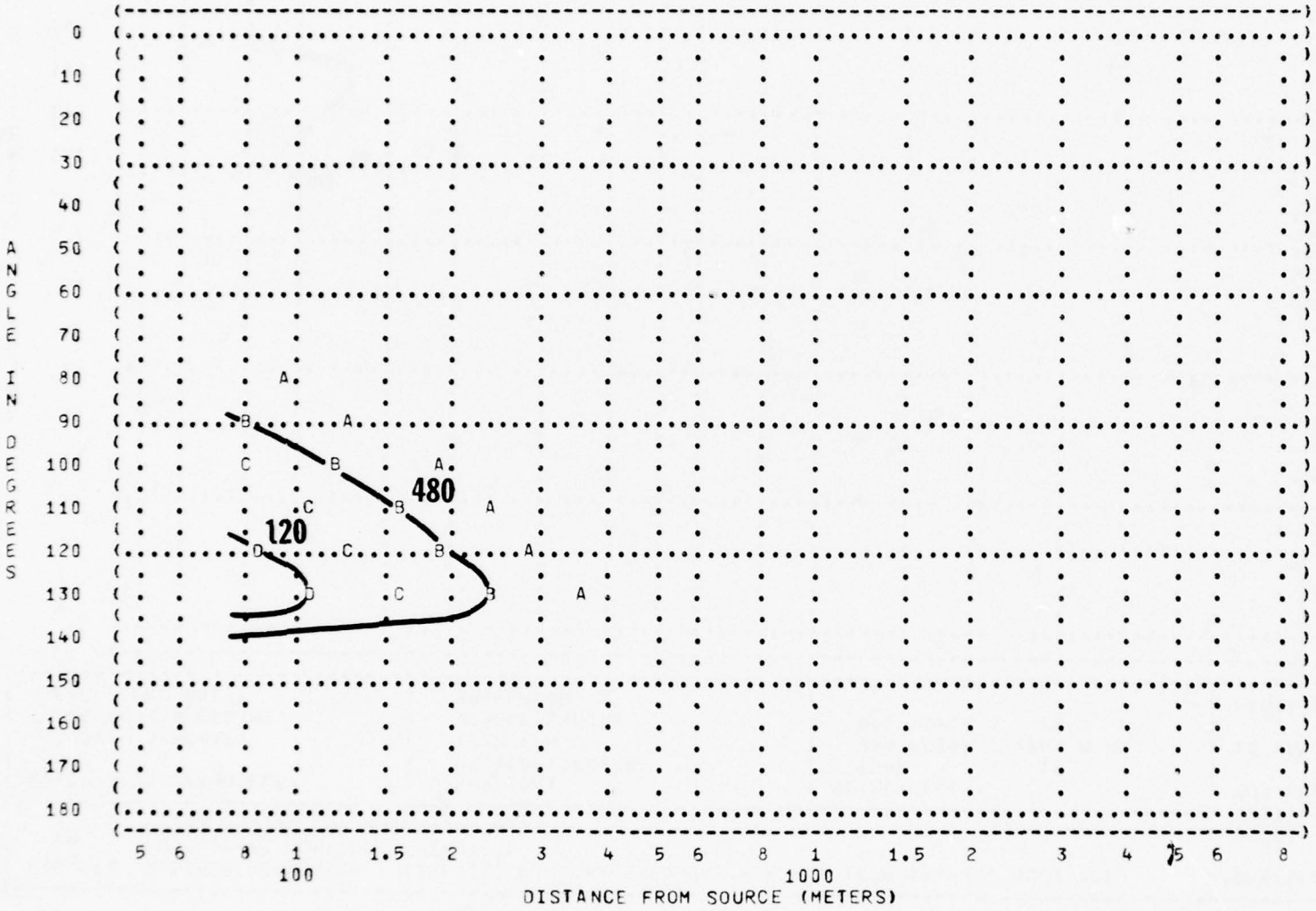


FIGURE: 10

MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)
EQUAL TIME CONTOURS (MINUTES)
H-133 GROUND COMMUNICATION UNIT

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 12

POINT	MIN
A	960
B	480
C	240

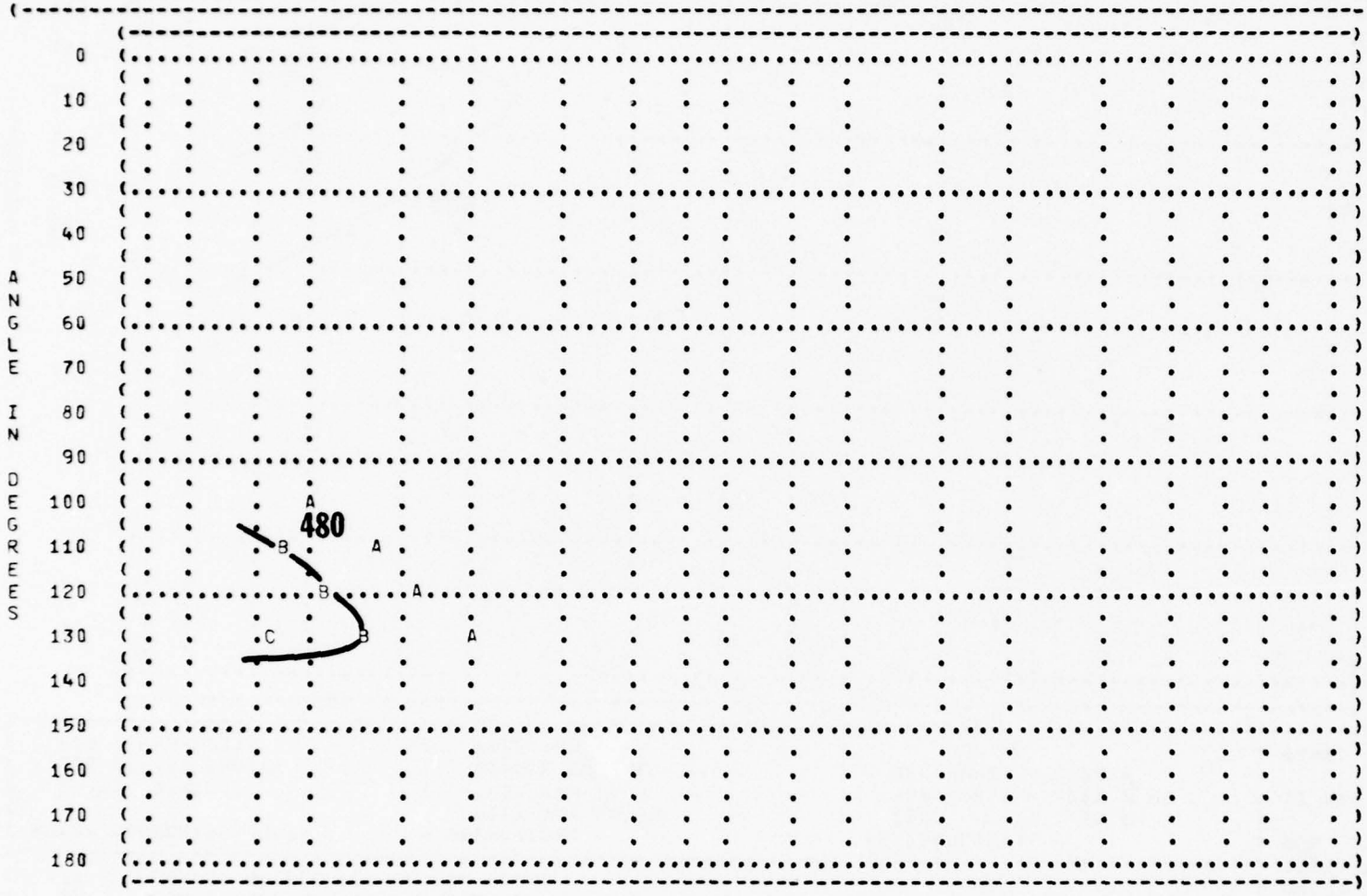


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 18

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70

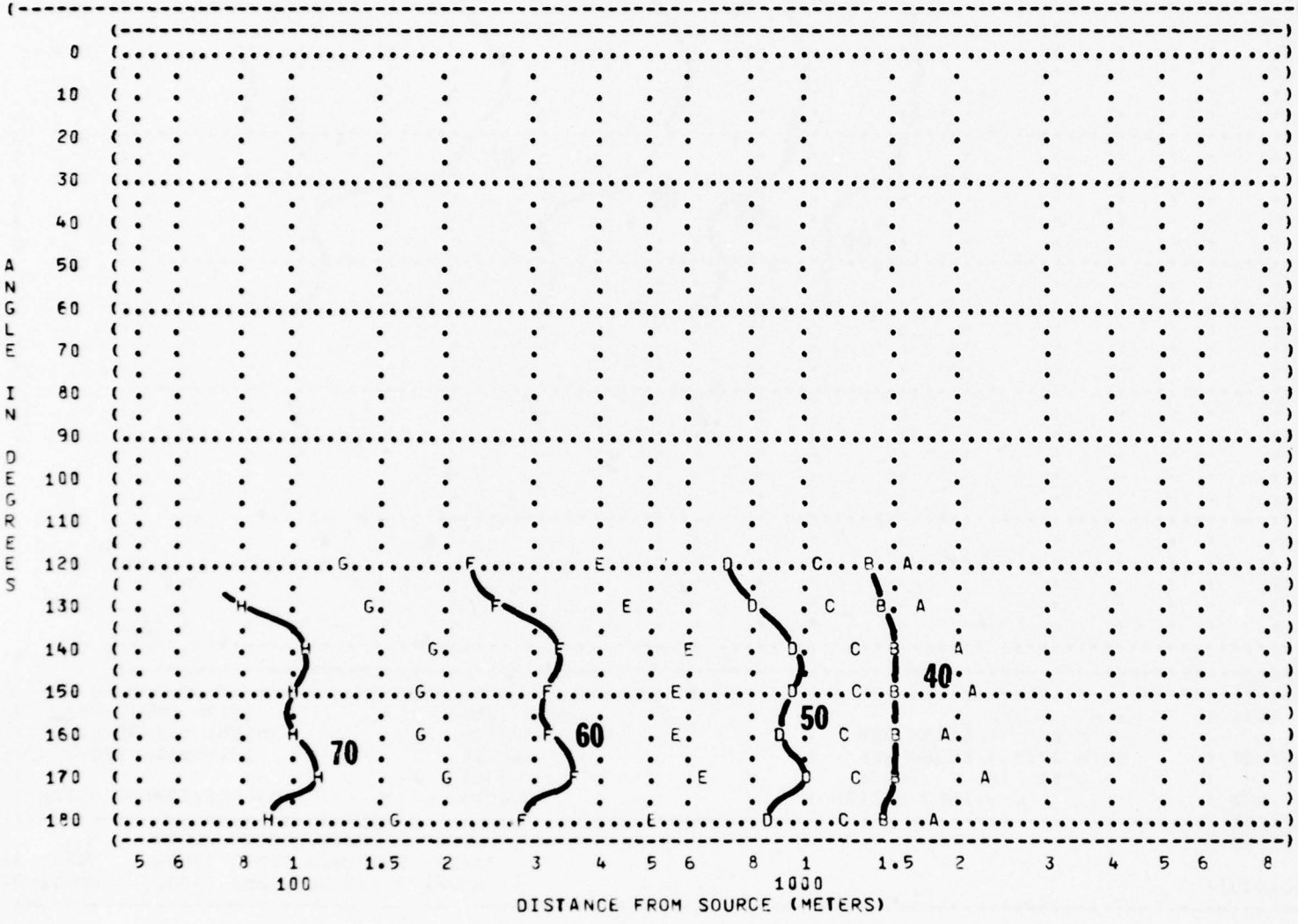


FIGURE 11: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
63 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 19

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

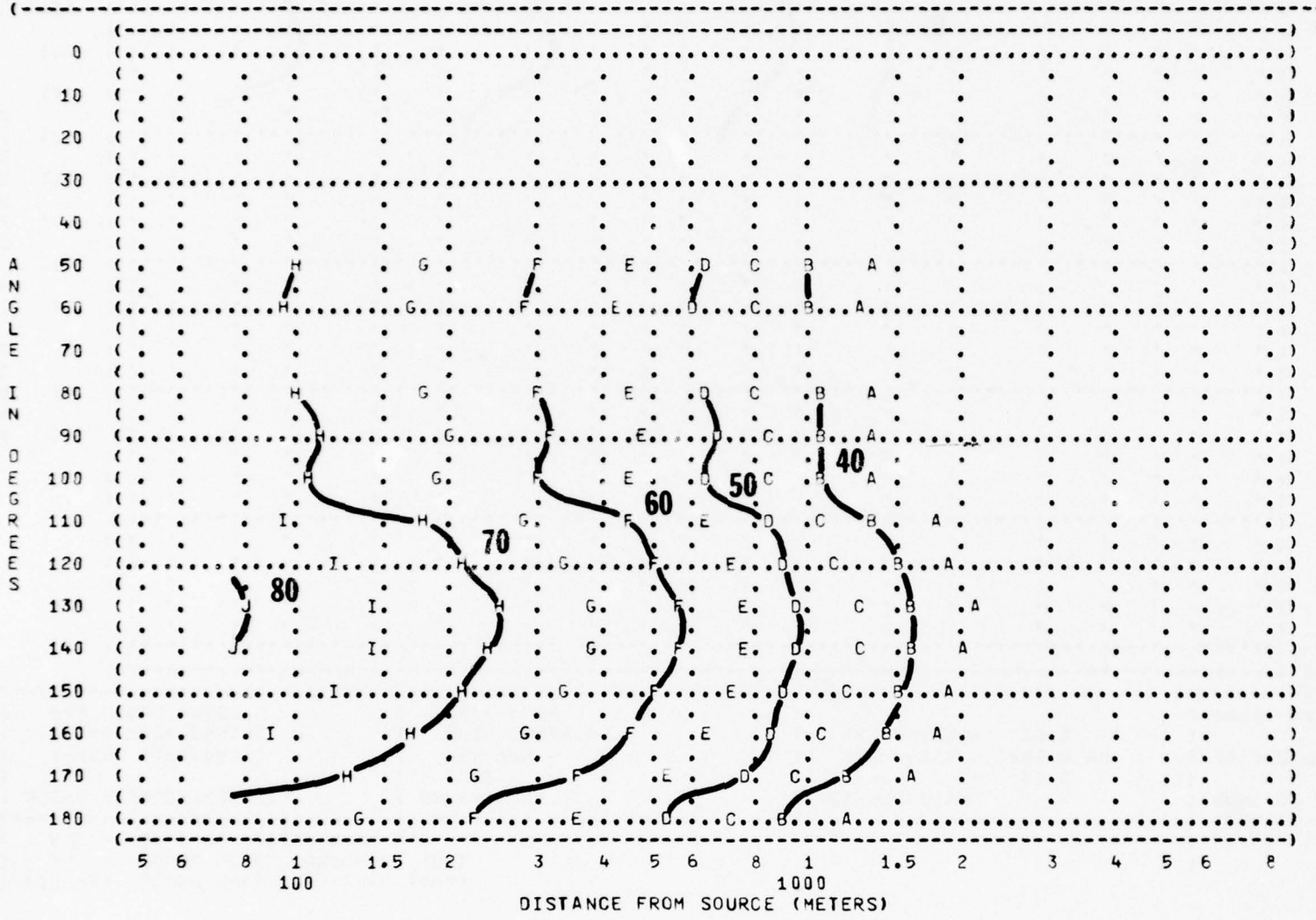


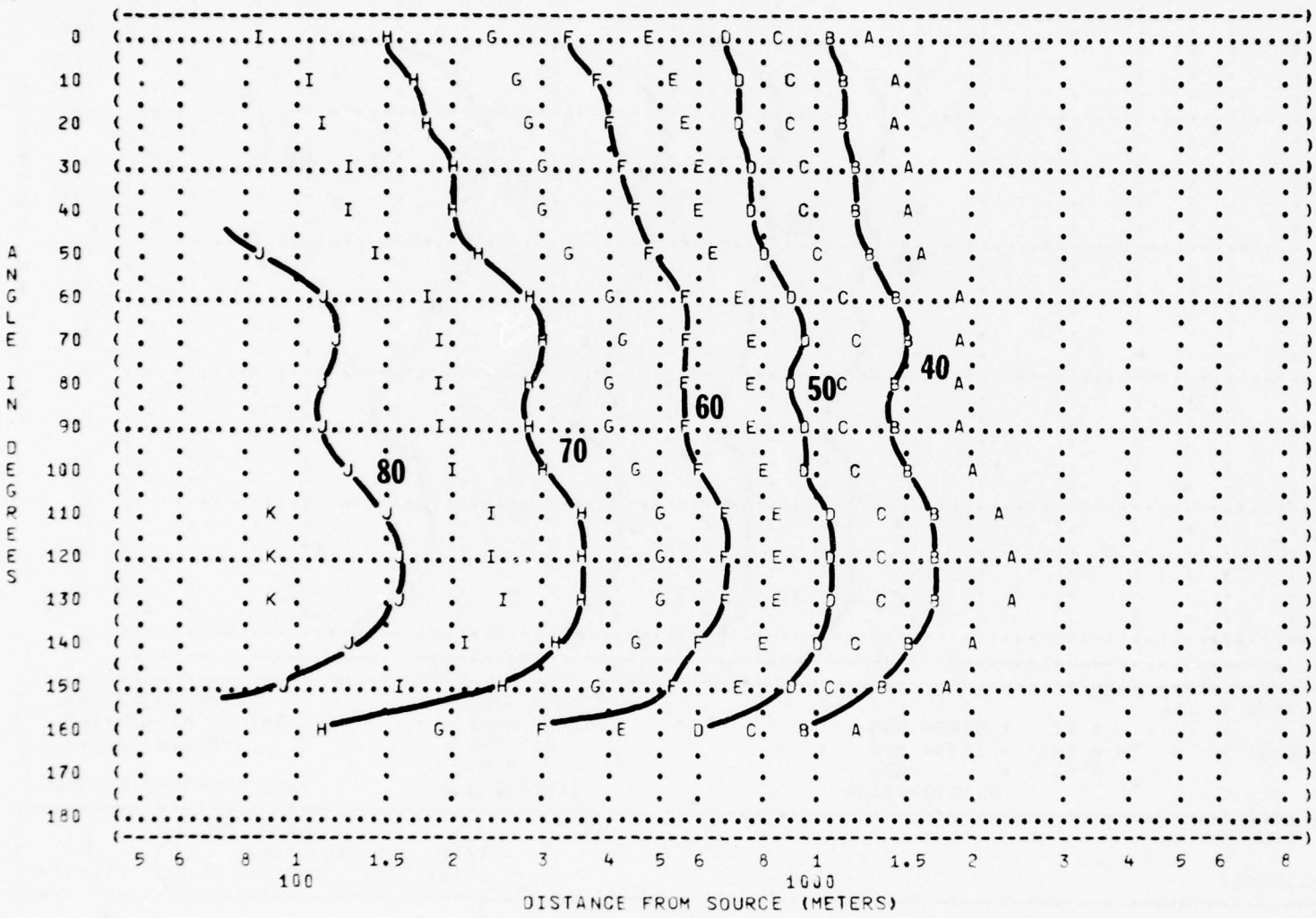
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

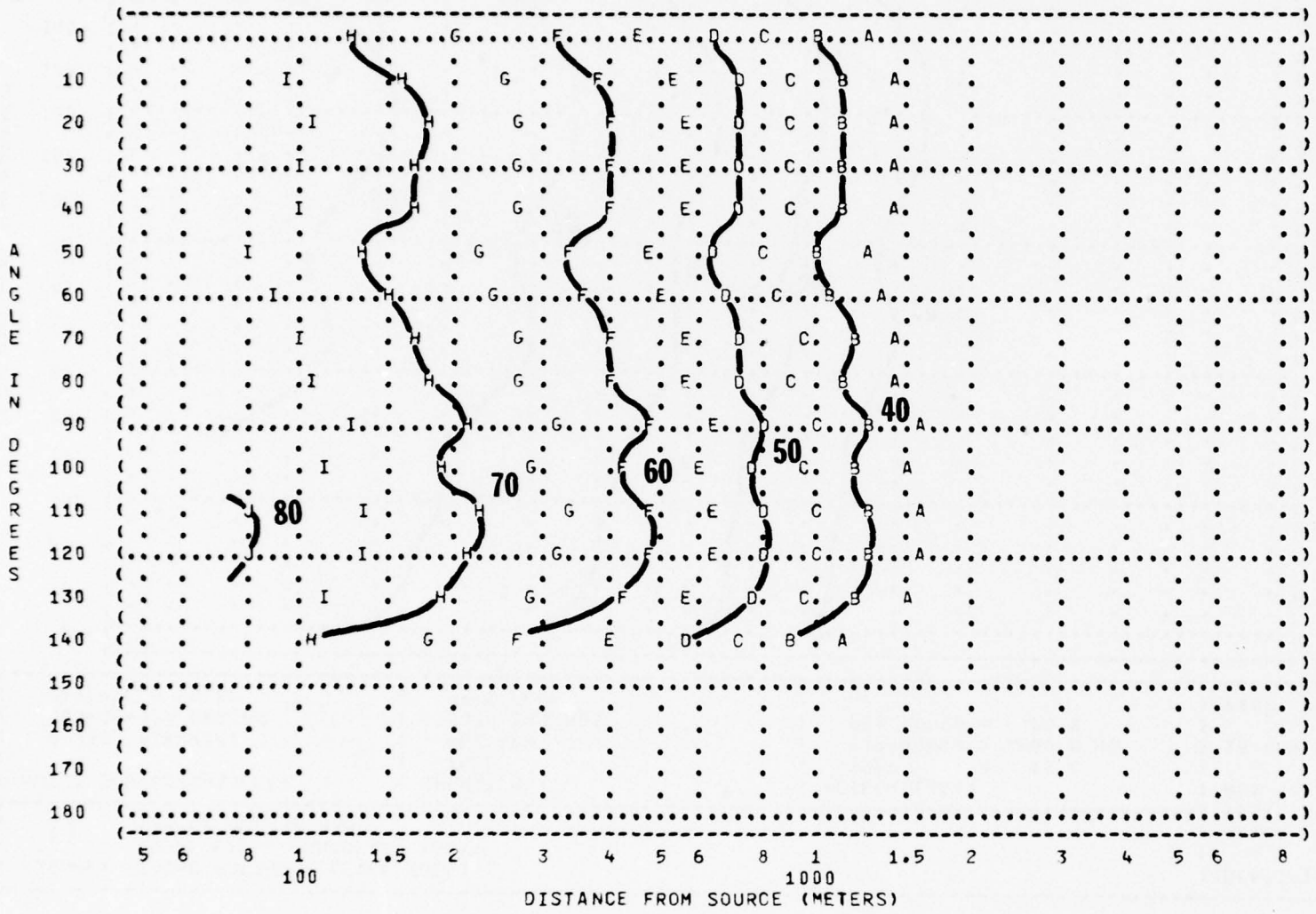
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 21

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

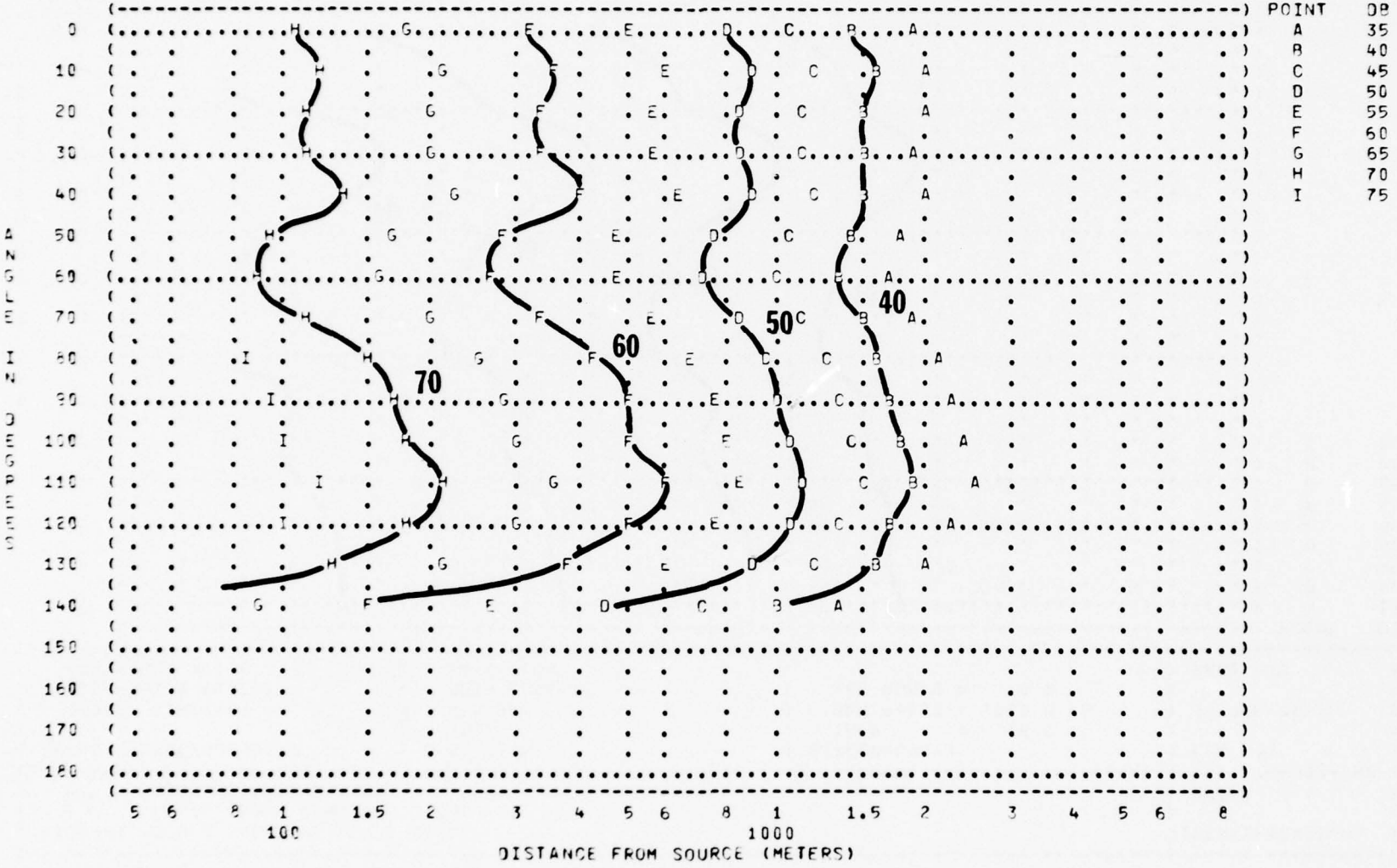
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 22



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 23

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75

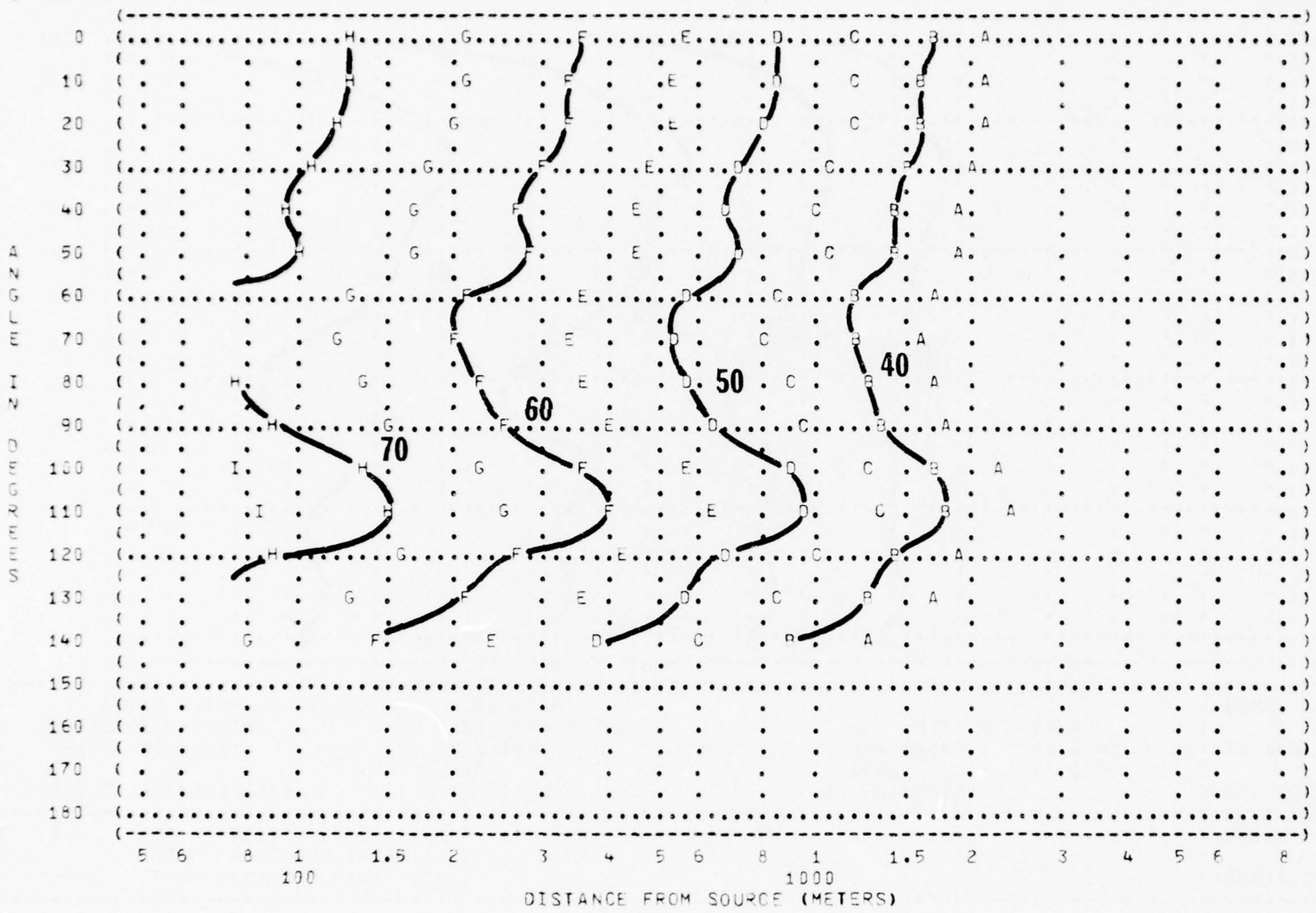


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-008 RUN 01 15 APR 75 PAGE 24

NOISE SOURCE/SUBJECT: A-37B AIRCRAFT; J85-GE-17A ENGINE; FAR FIELD NOISE

OPERATION: IDLE; 46% RPM; BOTH ENGINES; FREE FLOW

METEOROLOGY: TEMP = 15 C; BAR PRESS = .760 M HG; REL HUMID = 70 %

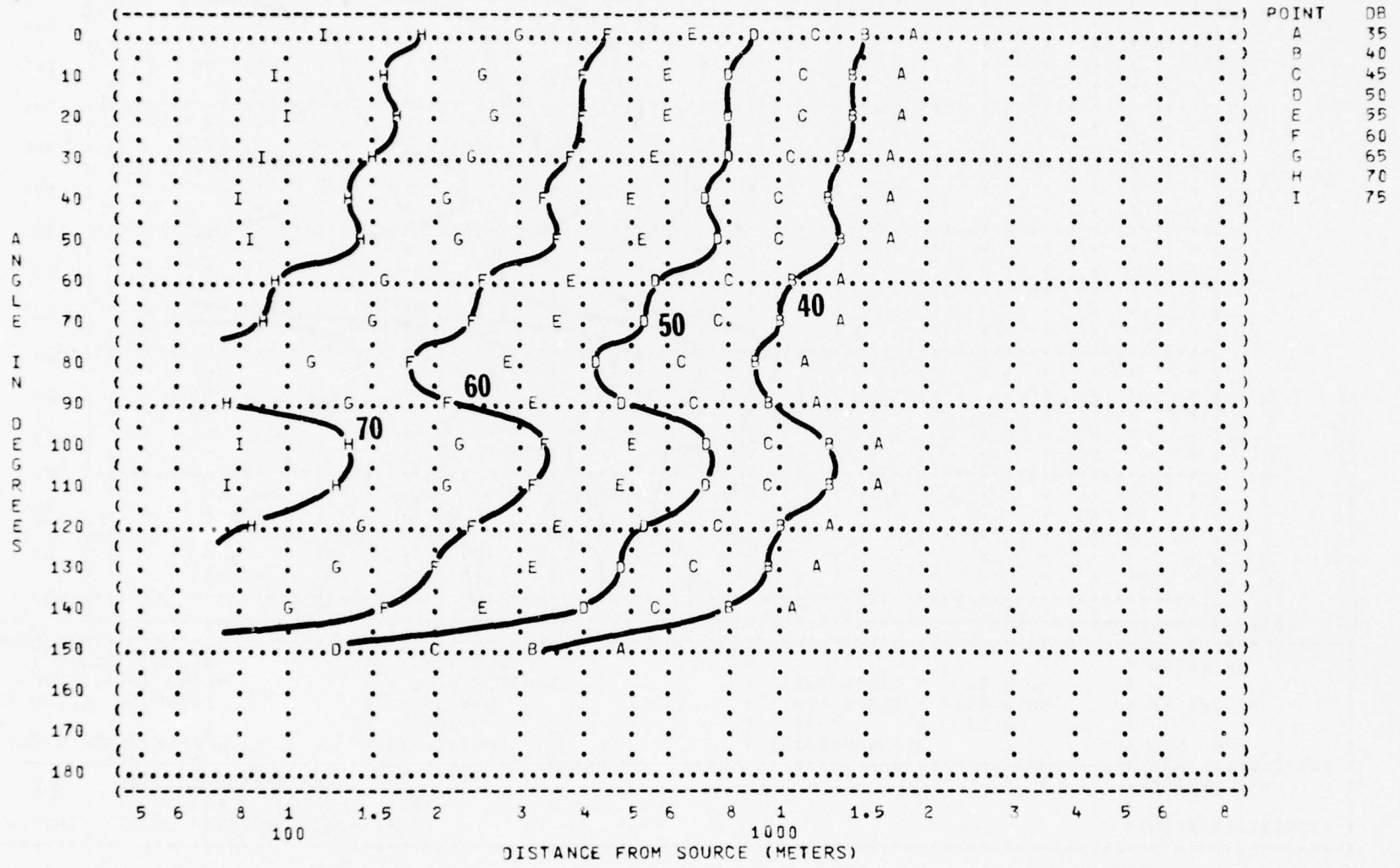


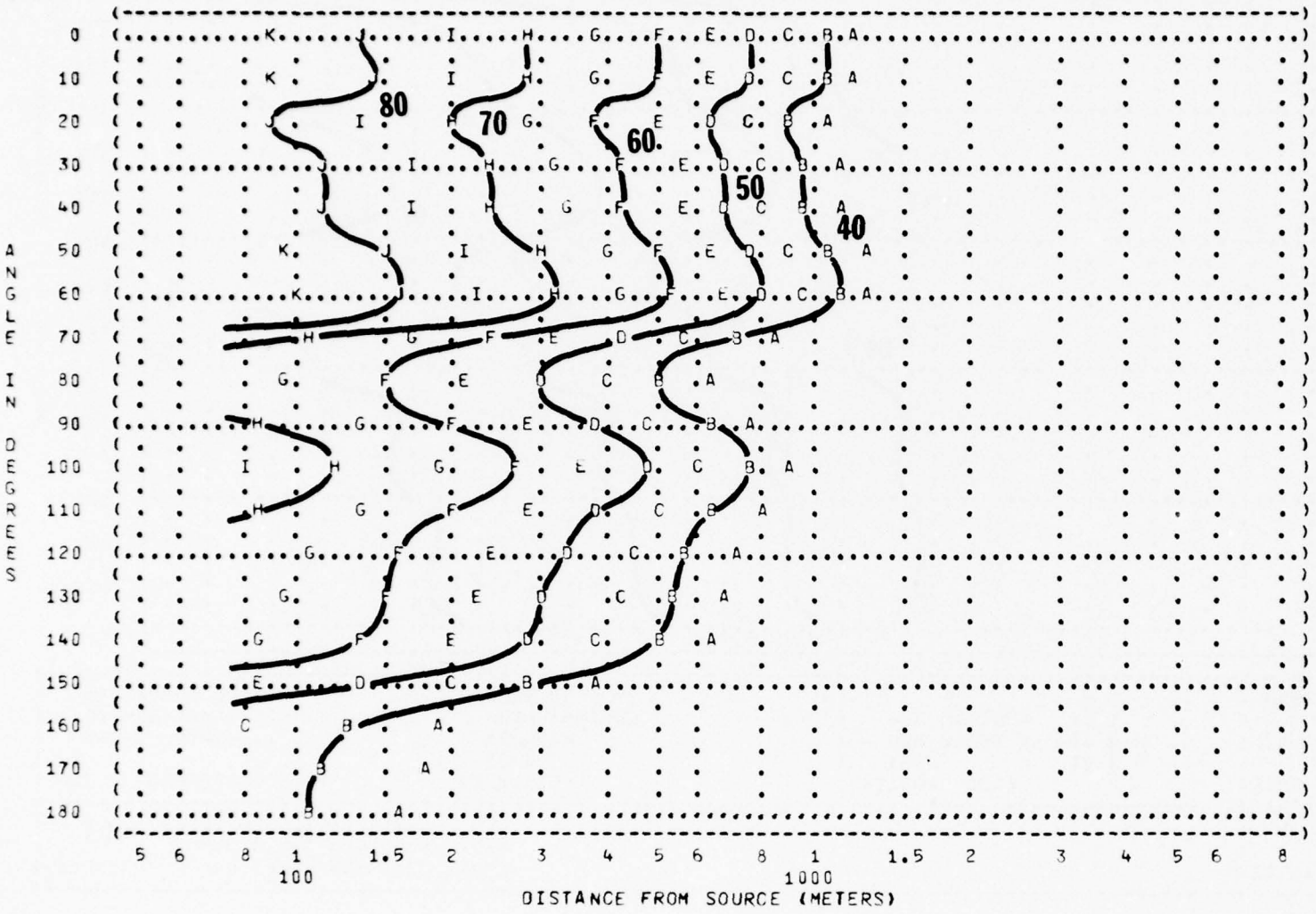
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-008
RUN 01
15 APR 75
PAGE 25

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
IDLE
46% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-008 RUN 01 15 APR 75 PAGE 26

NOISE SOURCE/SUBJECT: A-37B AIRCRAFT J85-GE-17A ENGINE FAR FIELD NOISE

OPERATION: IDLE 46% RPM BOTH ENGINES FREE FLOW

METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

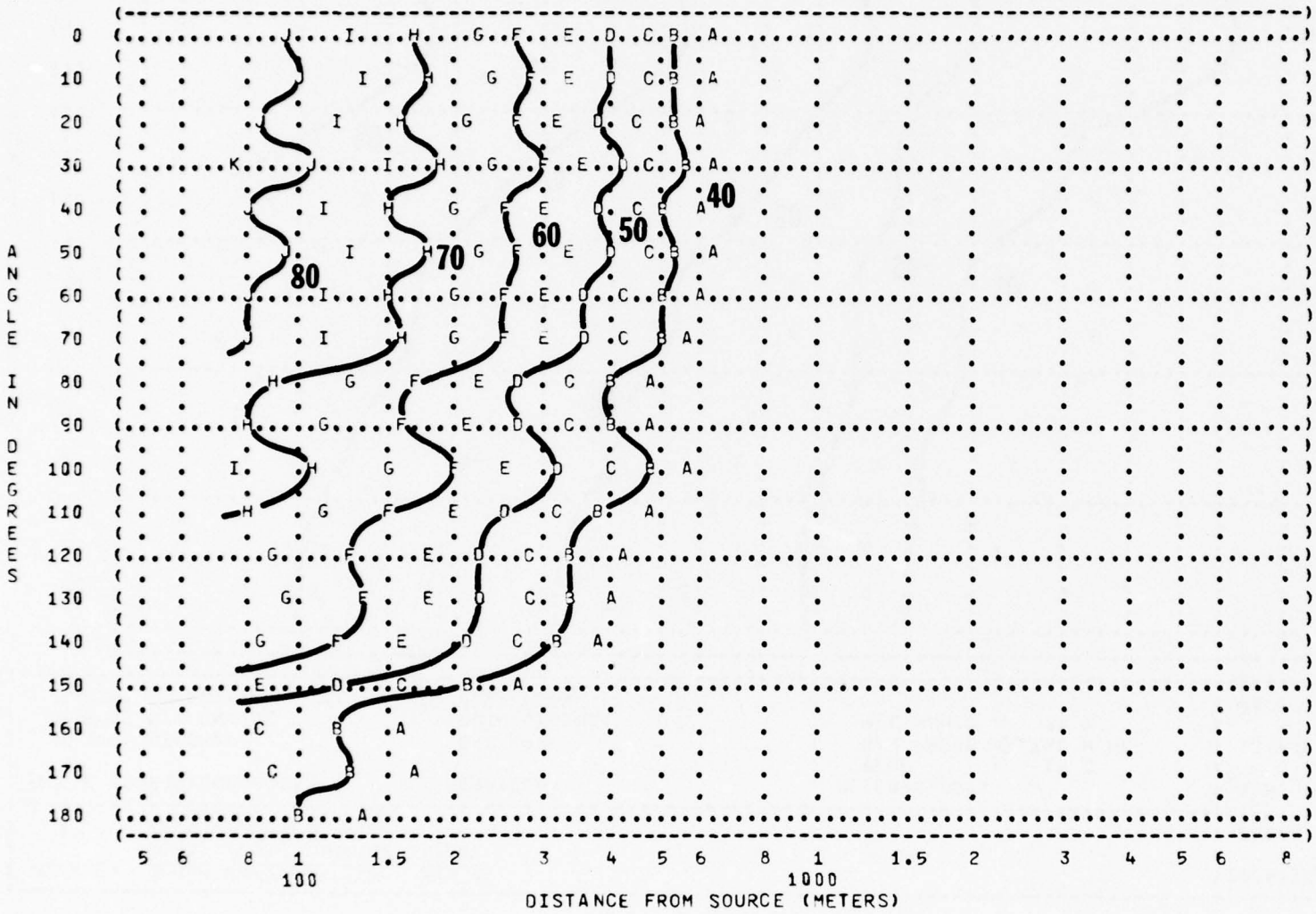


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 18

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

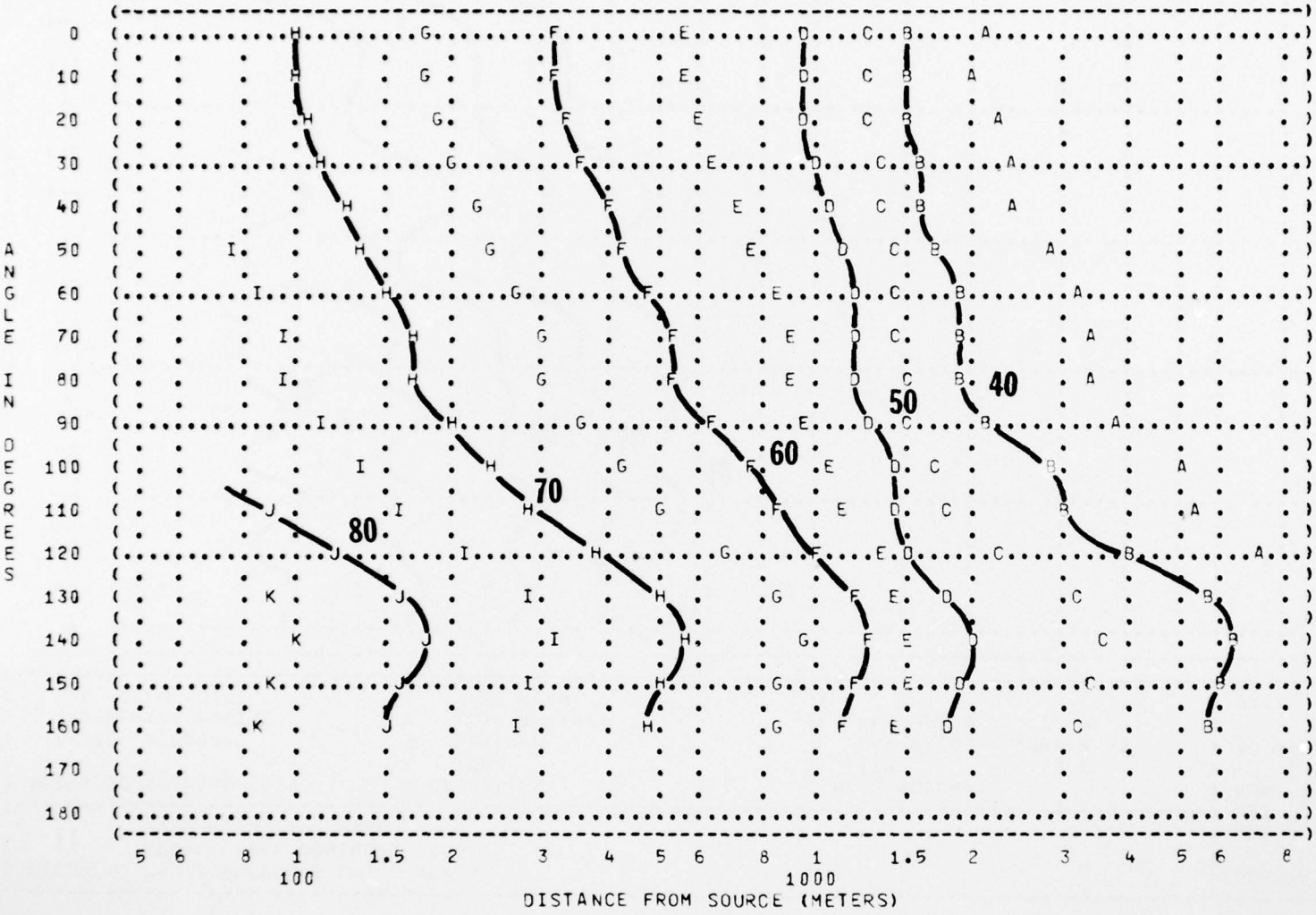


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 19

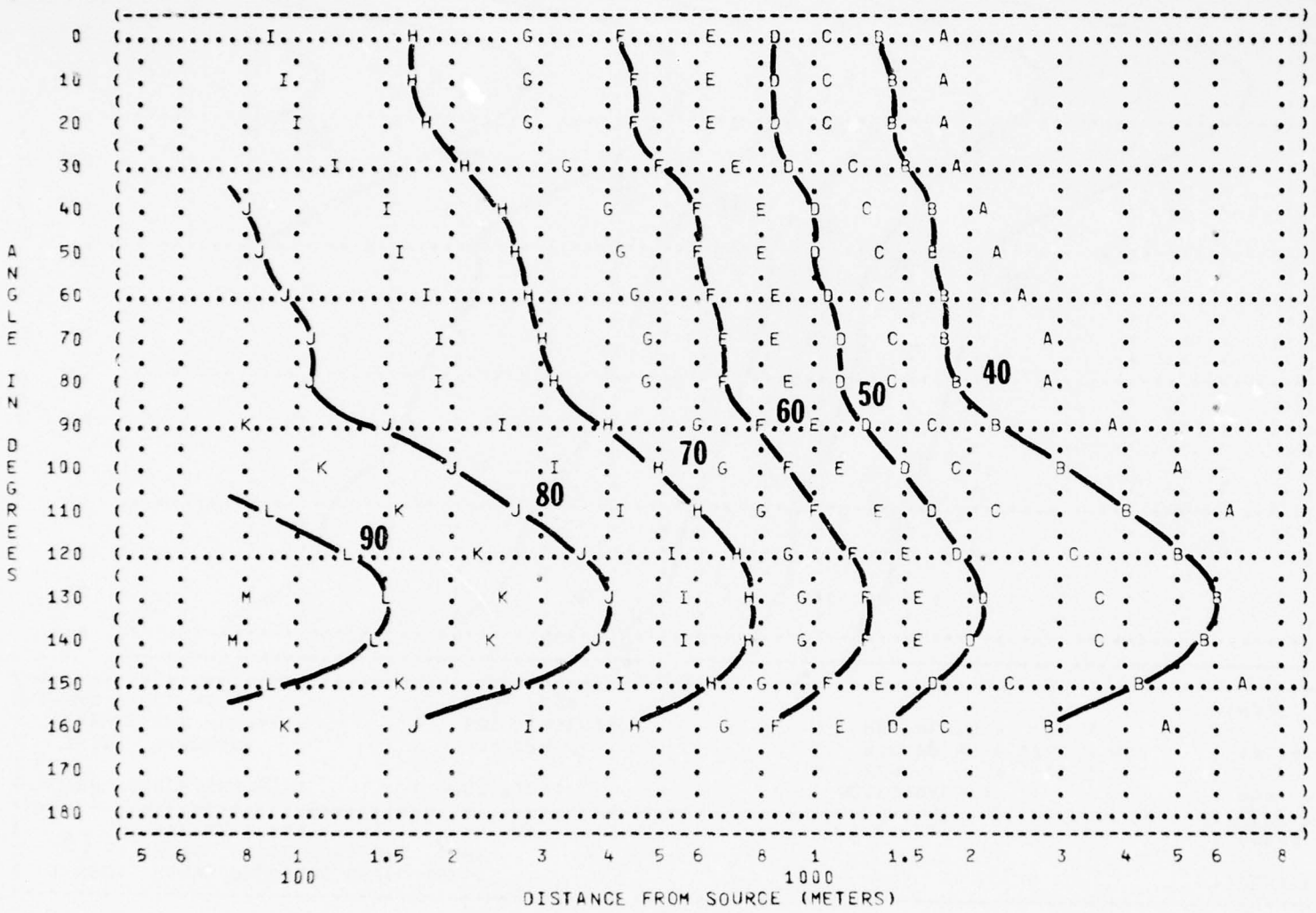


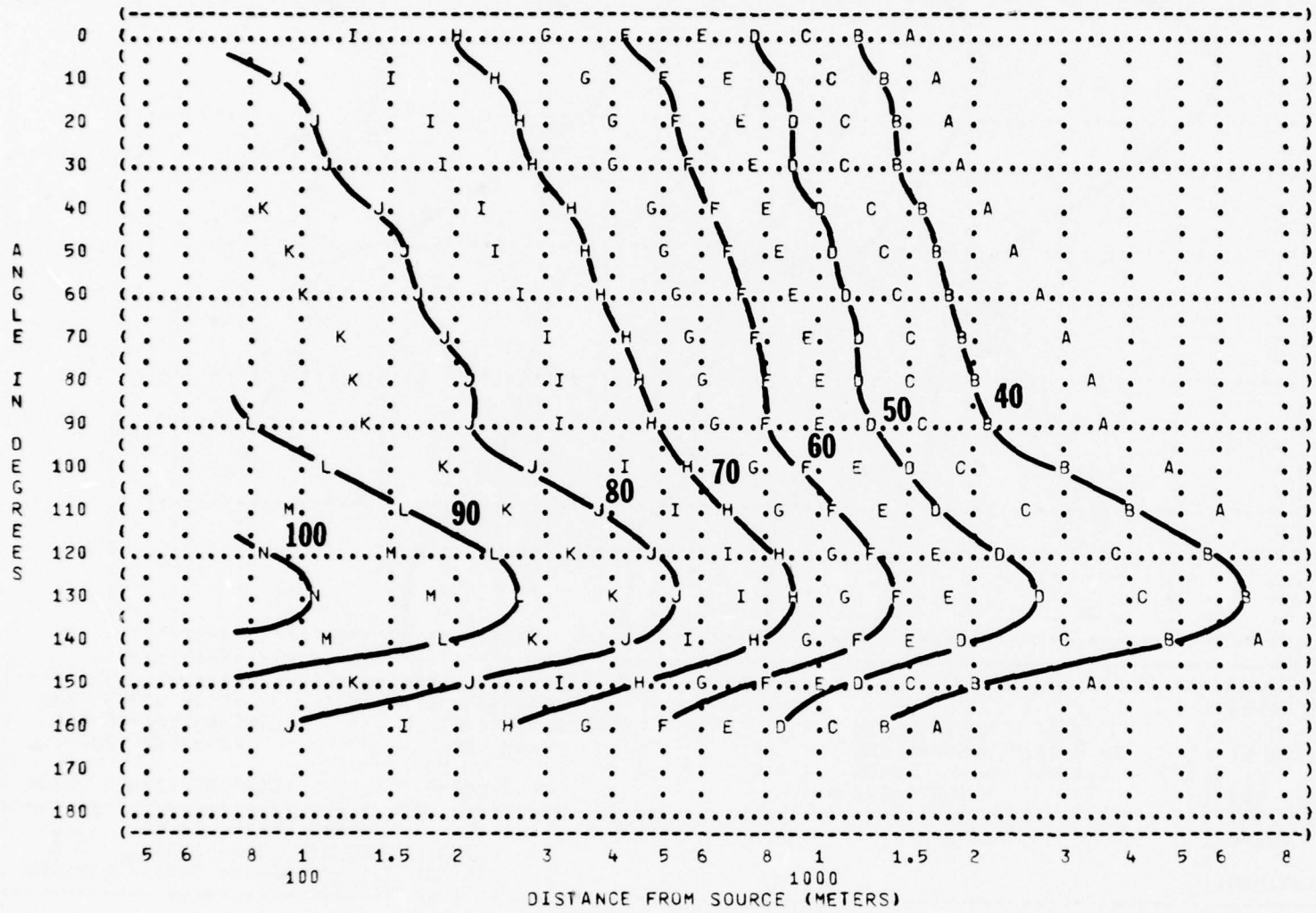
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

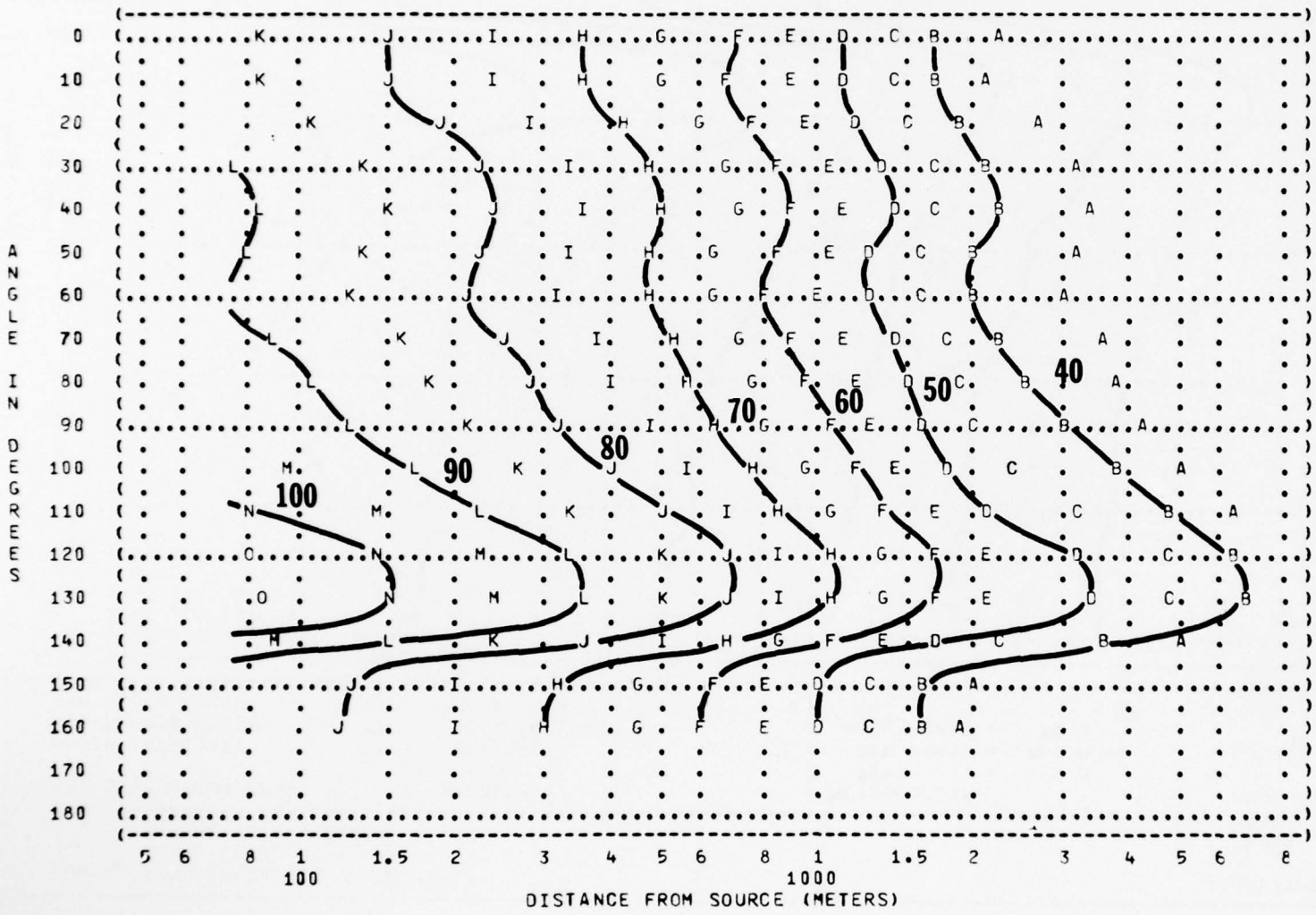
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 21



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

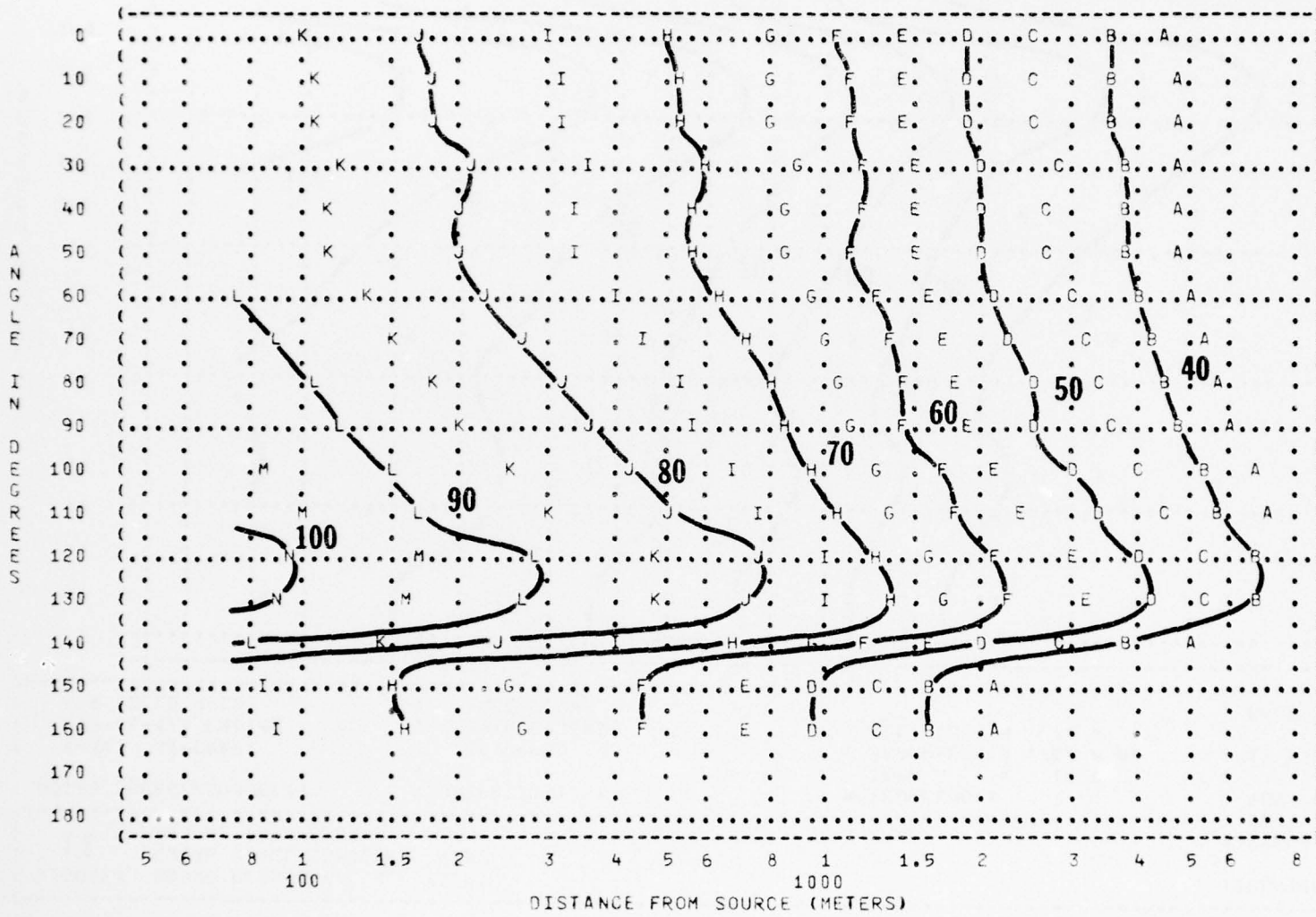
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 22



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

FIGURE 11 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 23

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95

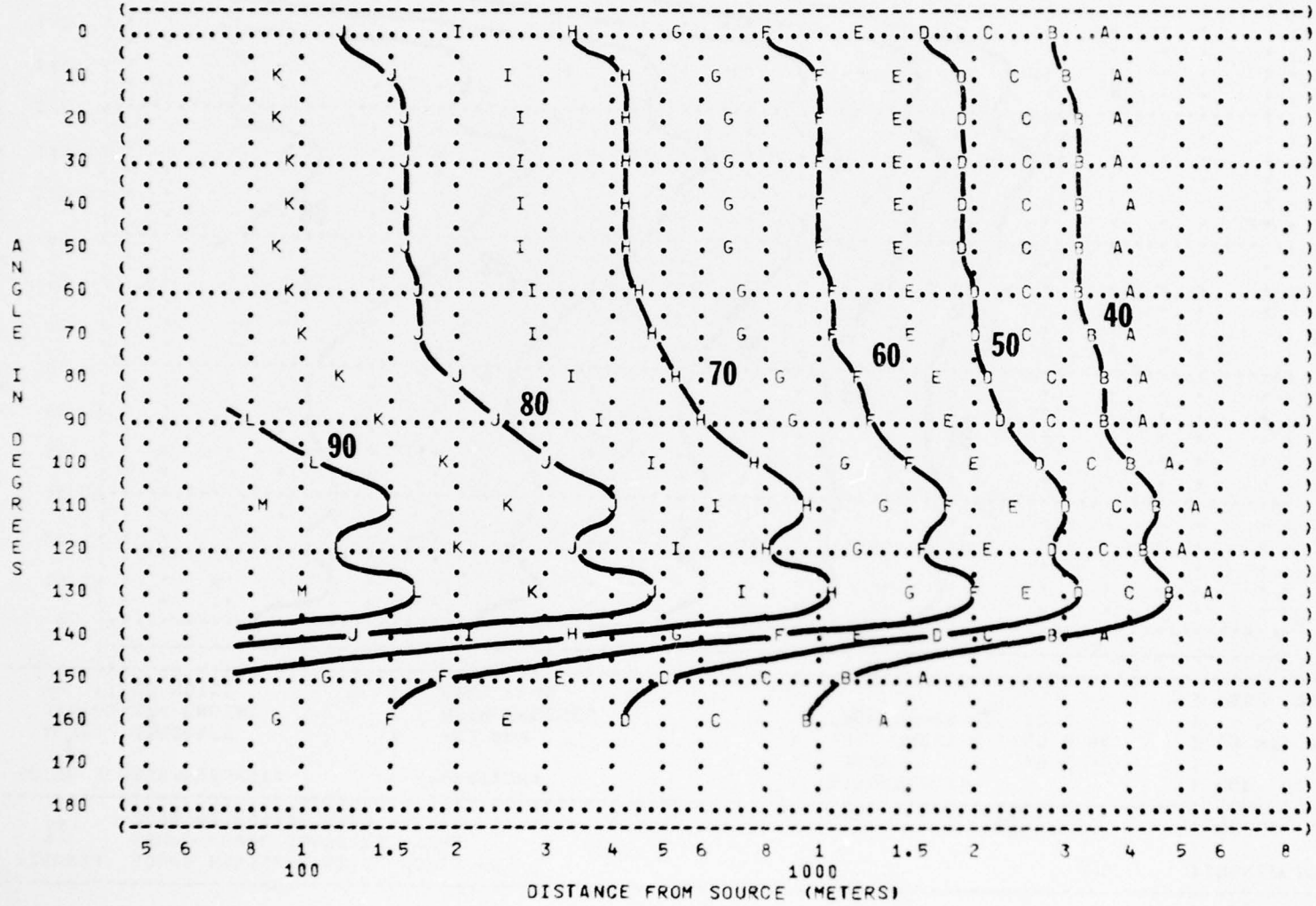


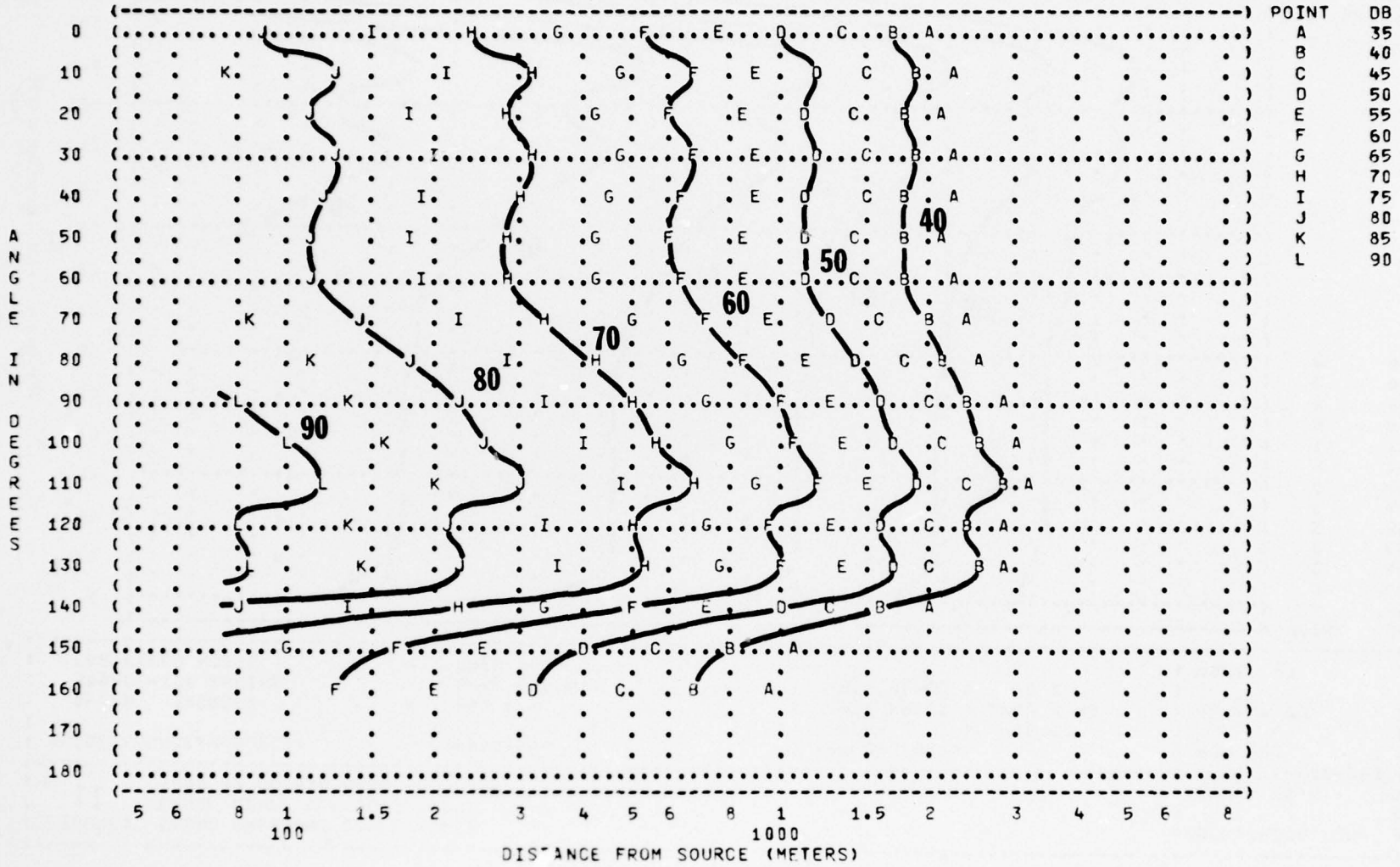
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 24



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90

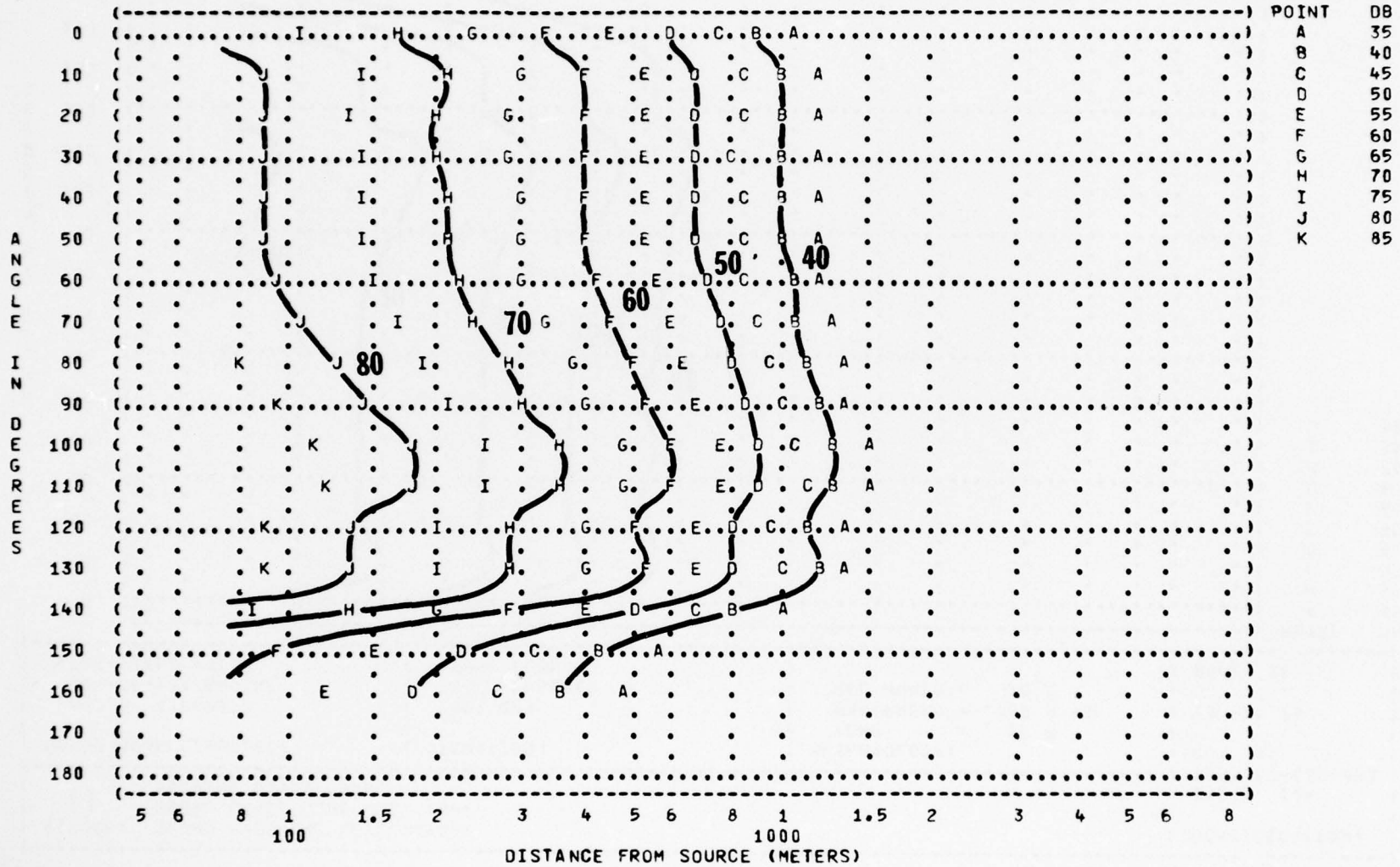
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 25



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85

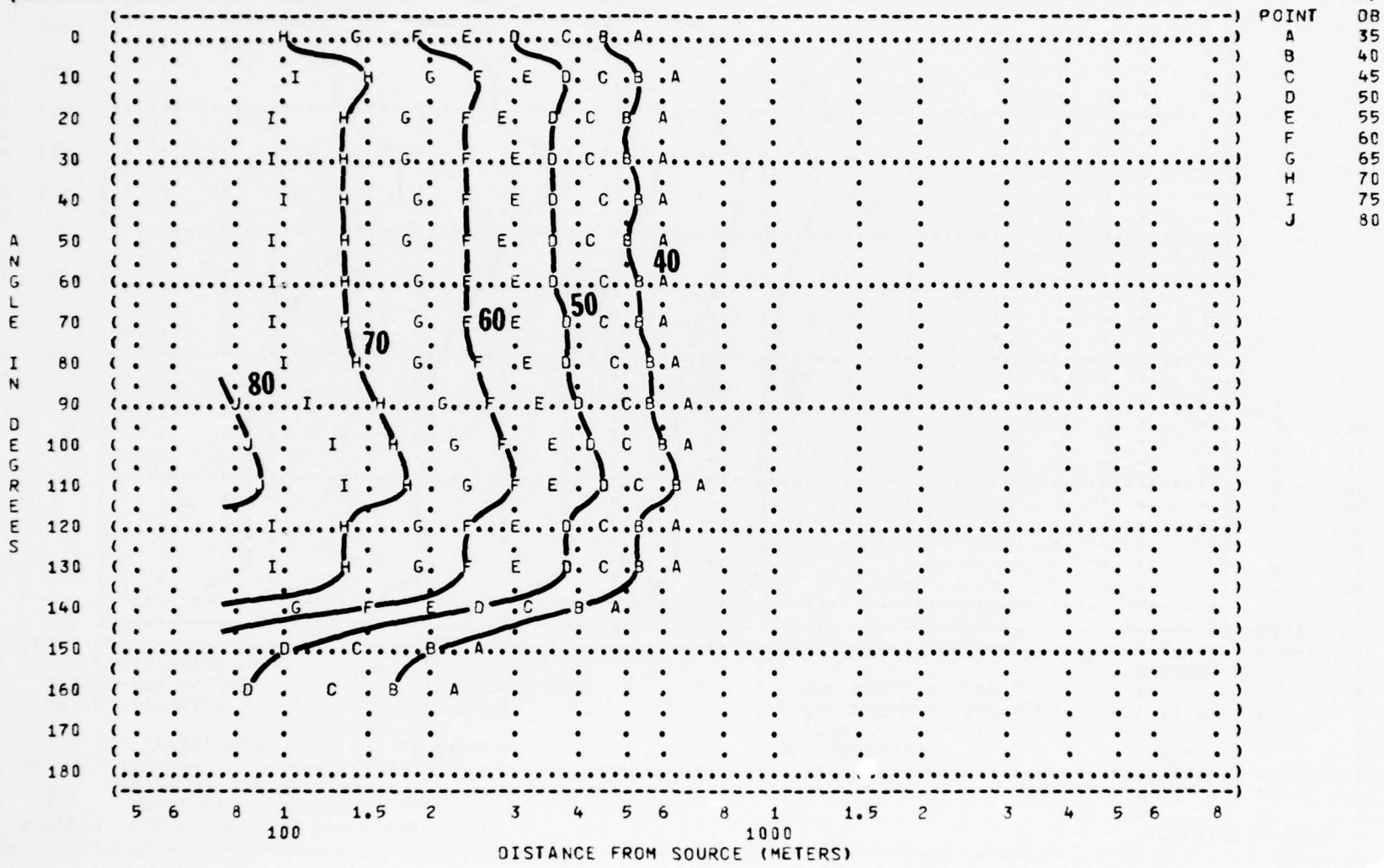
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
85% RPM
BOTH ENGINES
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 01
13 MAY 75
PAGE 26



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80

FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 31.5 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 18

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90

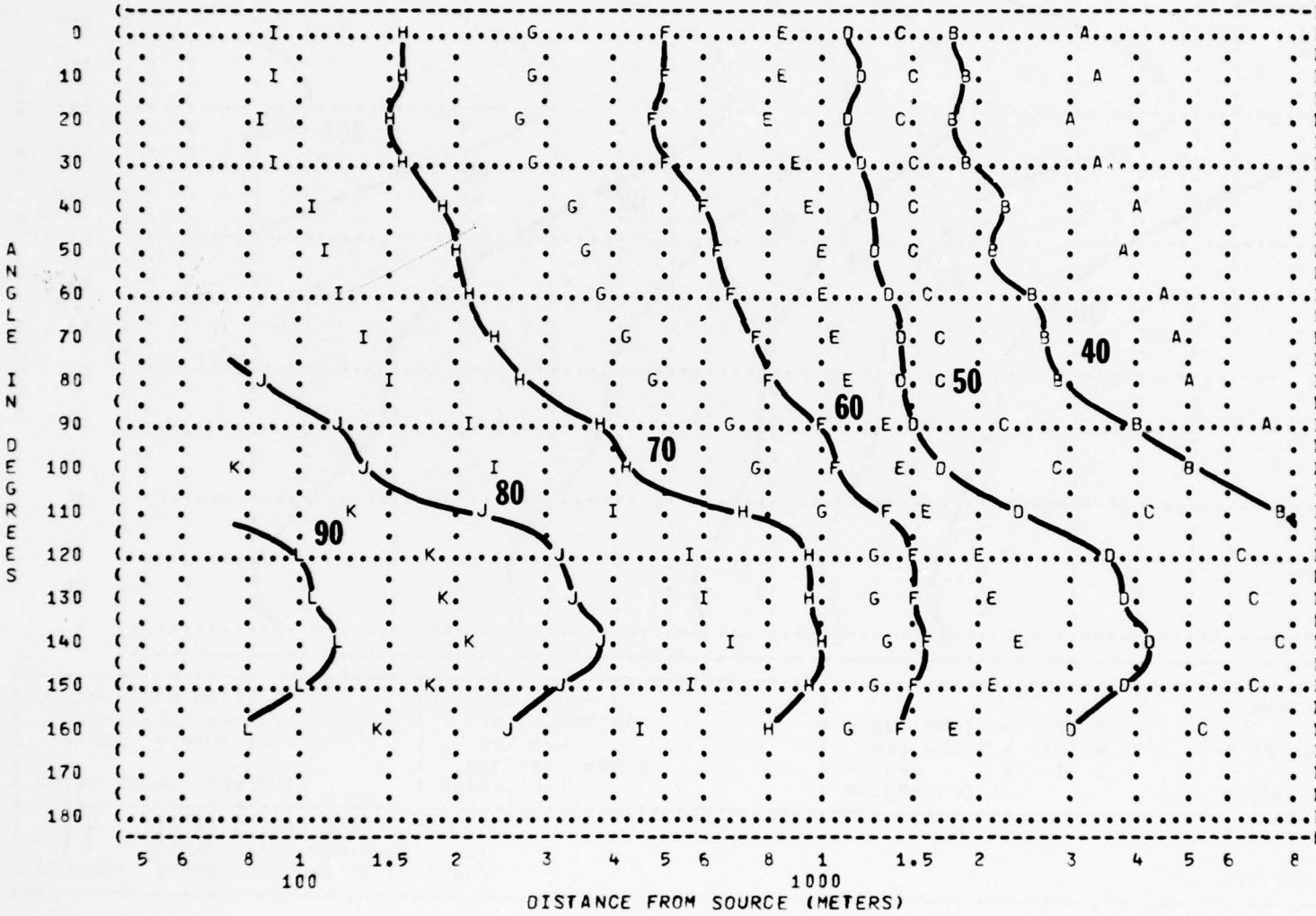


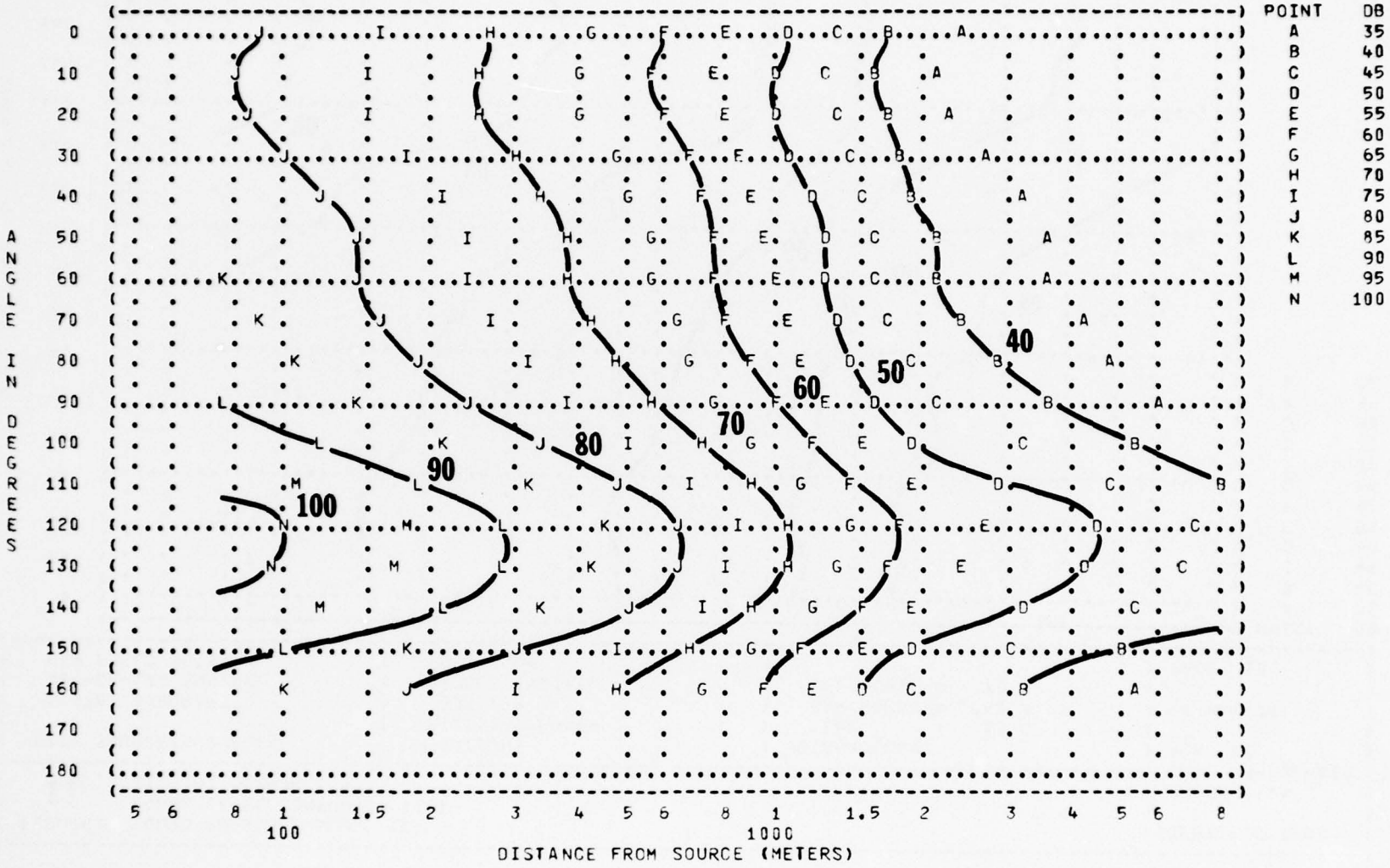
FIGURE: 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 63 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 19

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

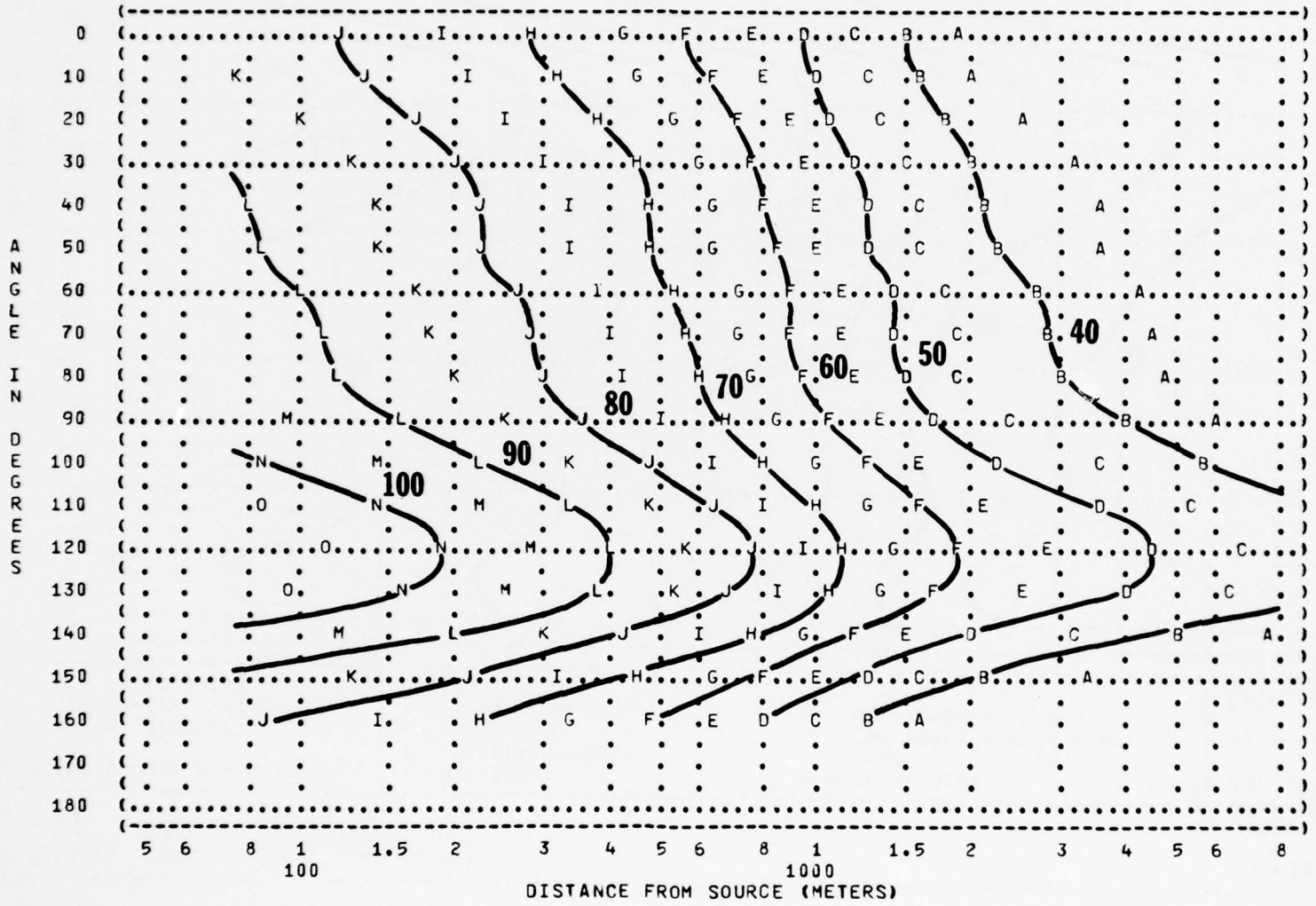
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 125 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 20



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

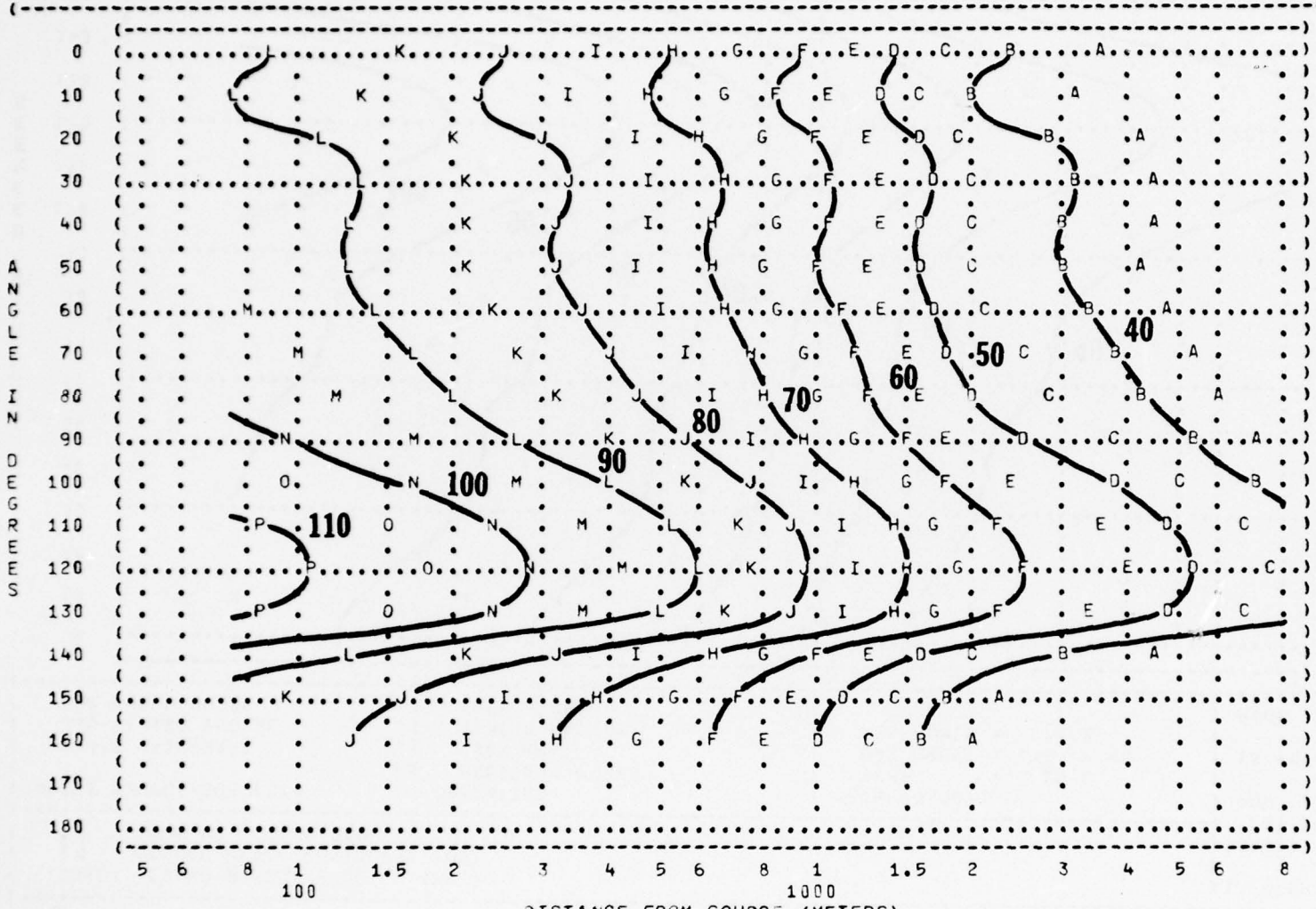
FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 250 HZ OCTAVE BAND

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 21

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 22

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

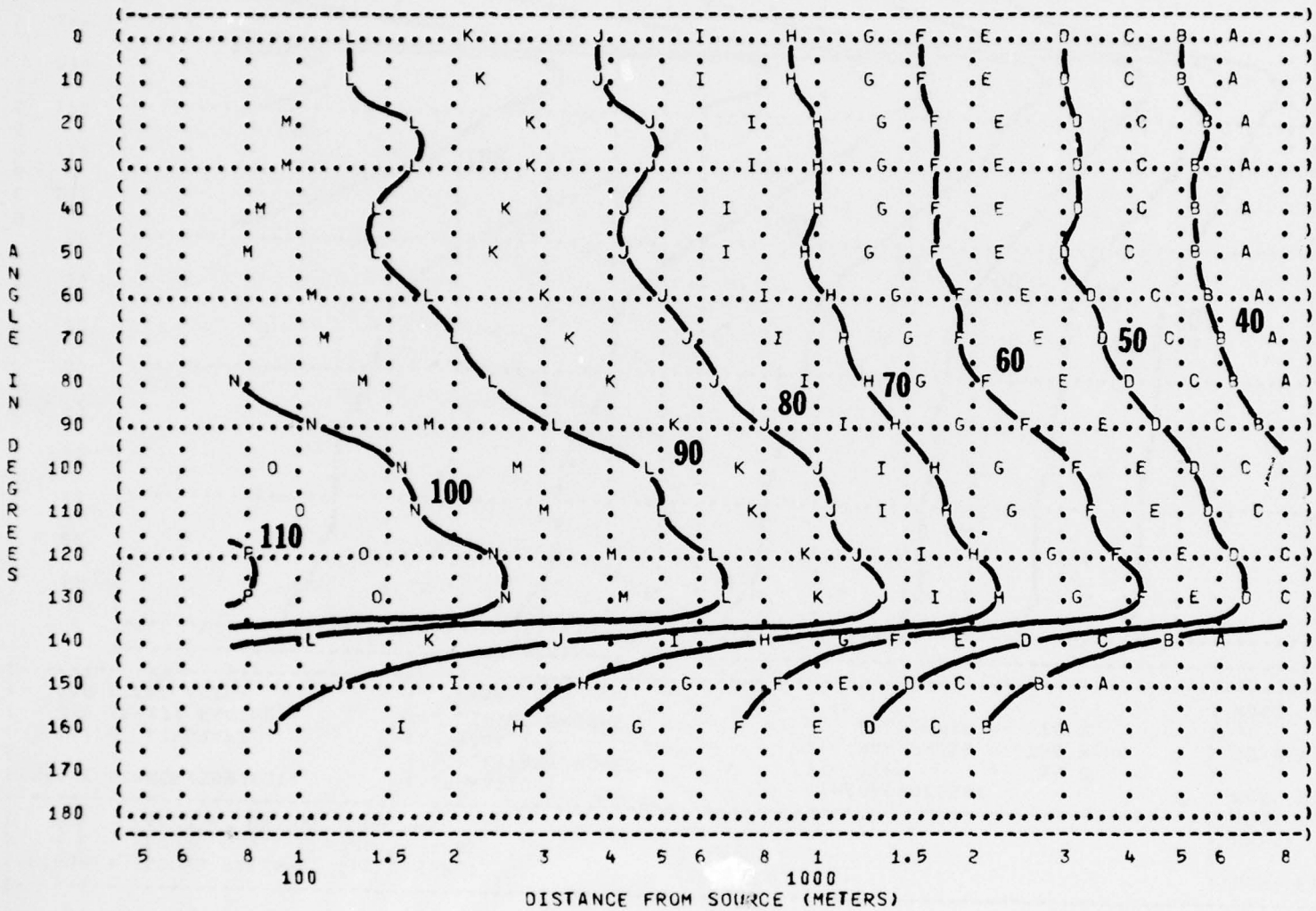


FIGURE: 11

SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
1000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 23

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105
P	110

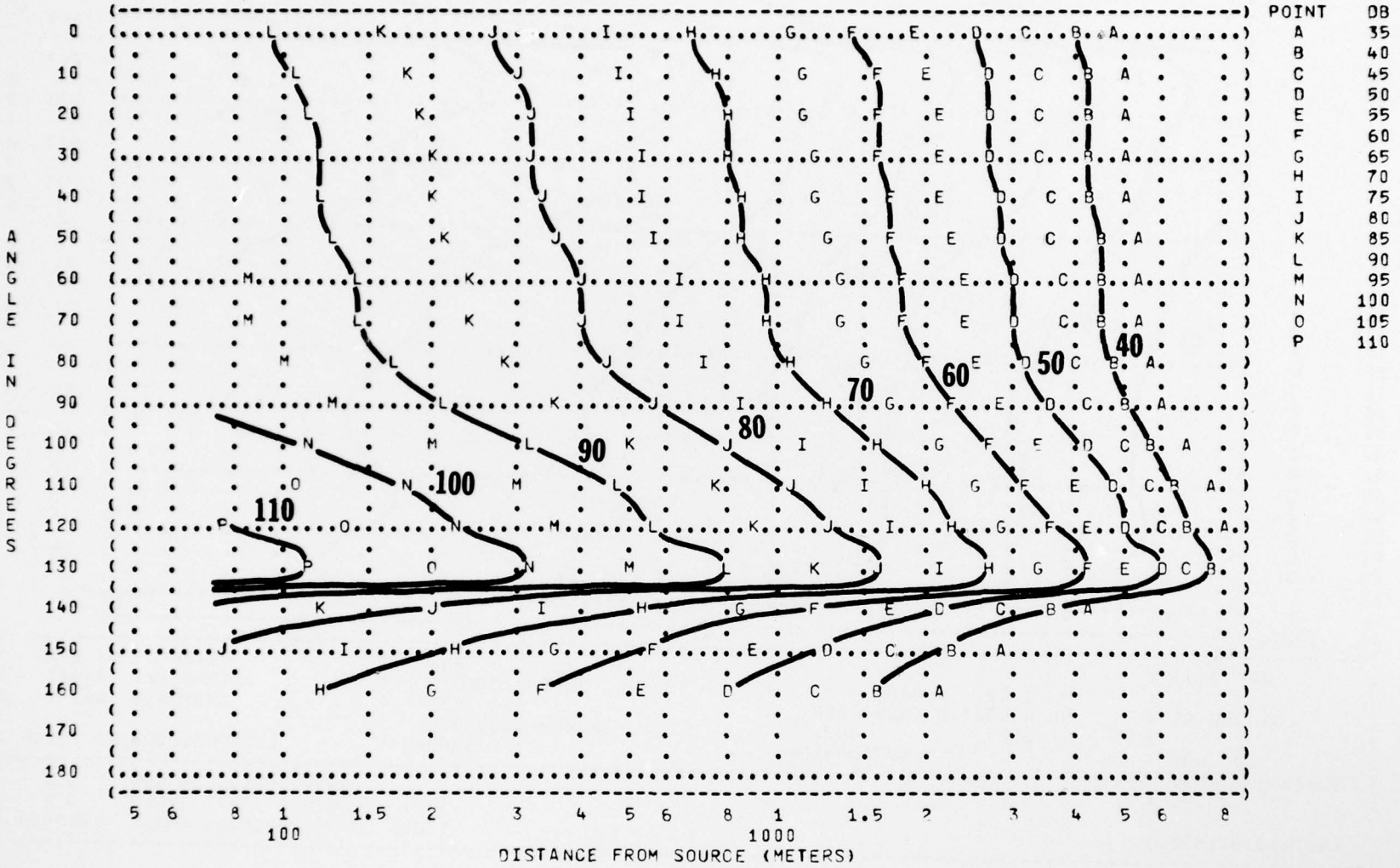


FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 24

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100
O	105

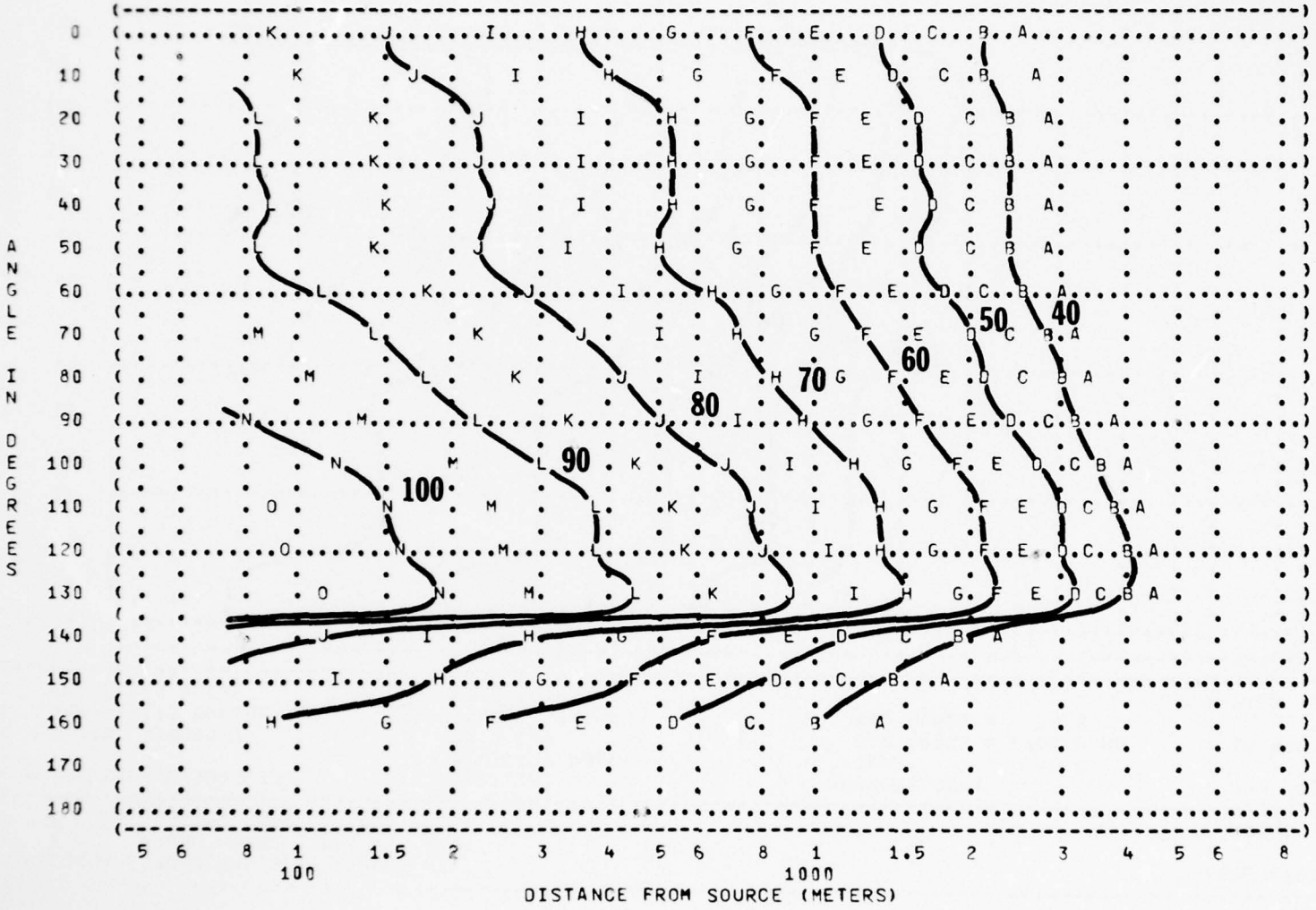


FIGURE 11: SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 25

POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95
N	100

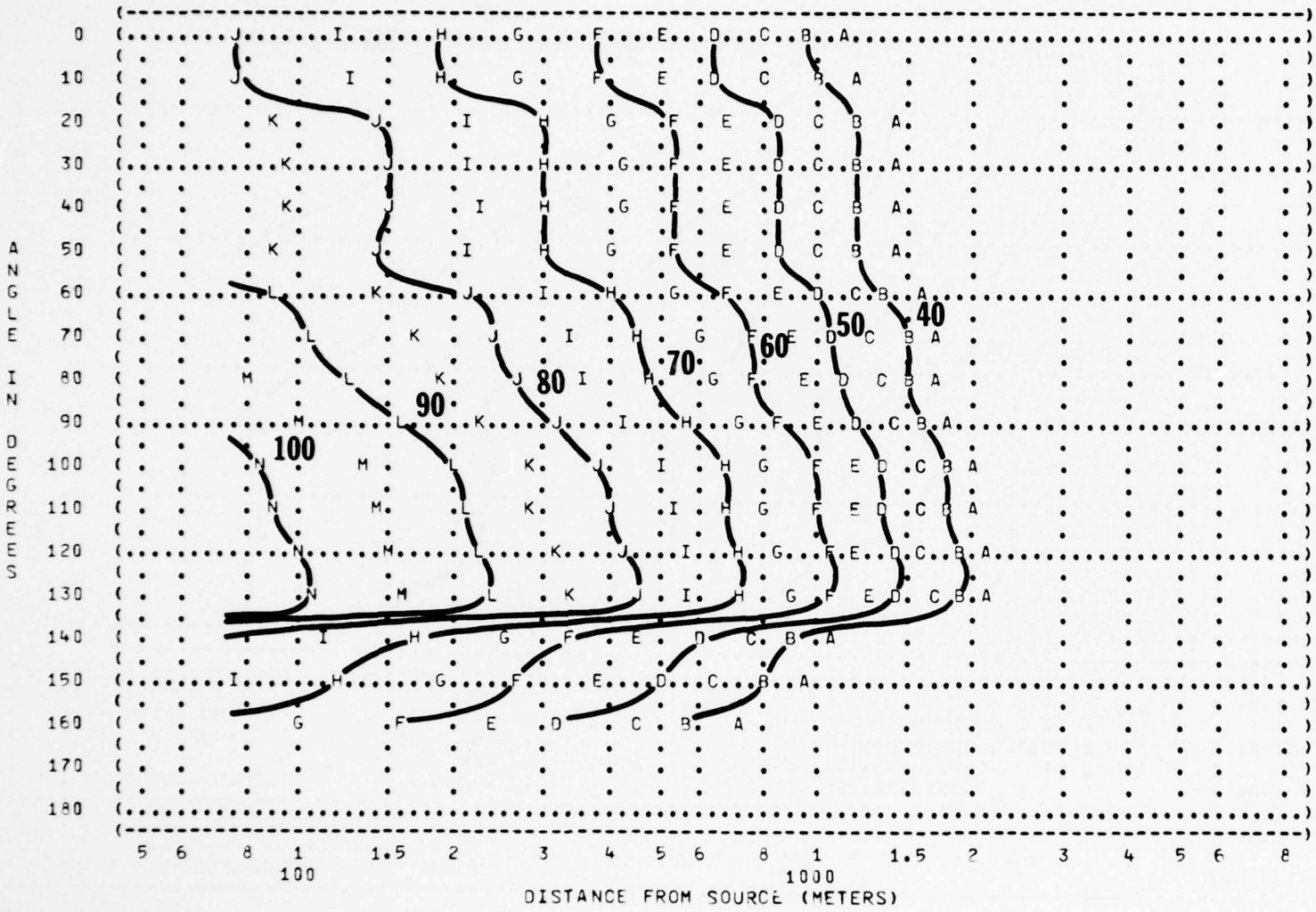


FIGURE: 11

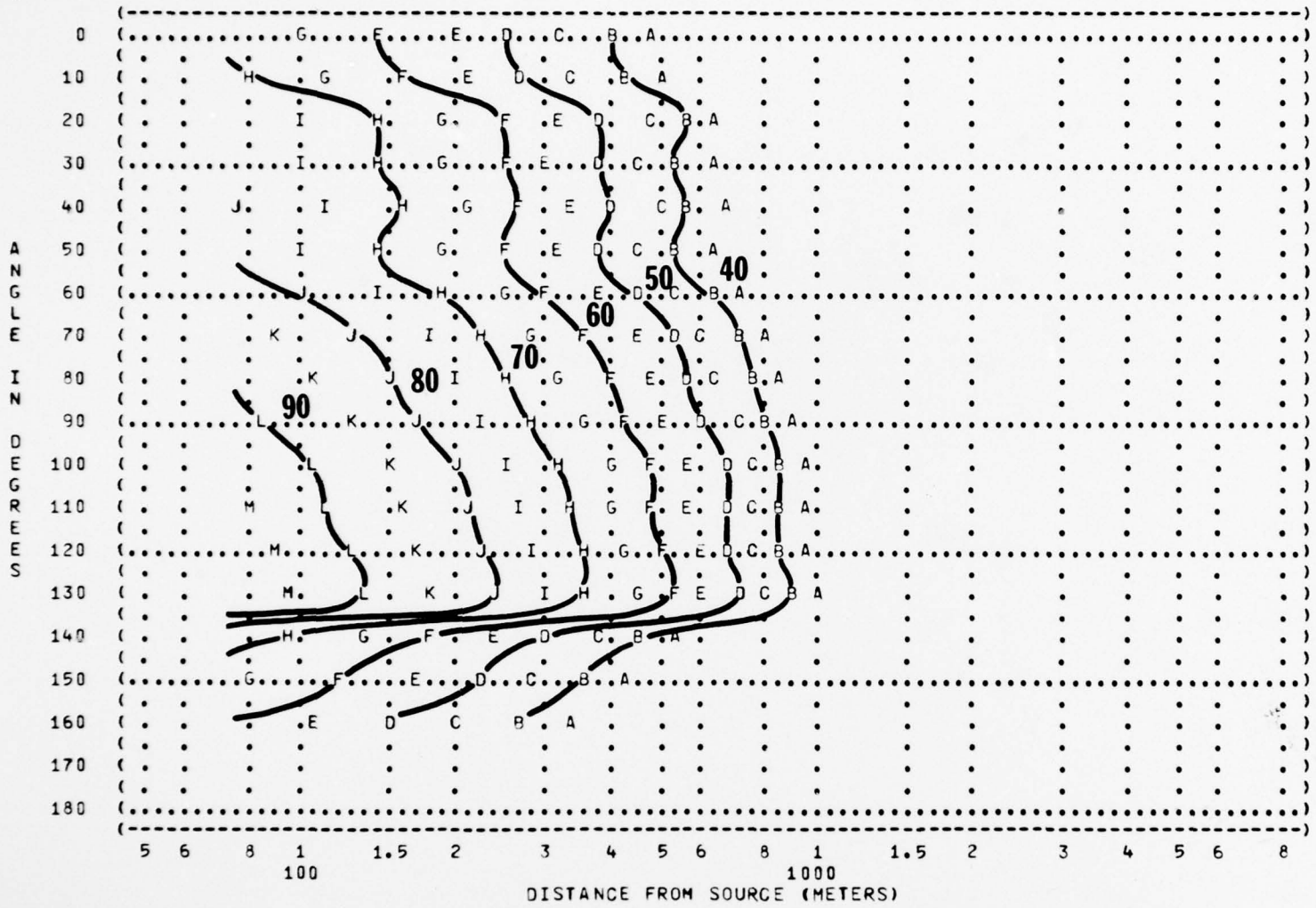
SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:
A-37B AIRCRAFT
J85-GE-17A ENGINE
FAR FIELD NOISE

OPERATION:
MILITARY POWER
100% RPM
SINGLE ENGINE
FREE FLOW

METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-053
RUN 02
13 MAY 75
PAGE 26



POINT	DB
A	35
B	40
C	45
D	50
E	55
F	60
G	65
H	70
I	75
J	80
K	85
L	90
M	95